ARCADIS
Infrastructure · Water · Environment · Buildings

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www.arcadis-us.com

Florida Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Subject:
City of Tampa Howard F. Curren AWTP Permit Renewal Application Package Submittal – Permit Number: FL0020940

Date:
May 22, 2015

Contact:
Ifetayo Venner

Phone:
813-353-55751

Email:
Ifetayo.venner@arcadis-us.com

Our ref:
00043052

Florida License Numbers

Engineering
7917

Geology
GB564

Surveying
LB7062

Dear Permit Reviewer:

As authorized by the City of Tampa (City), ARCADIS is submitting an application package for the permit renewal for the City of Tampa Howard F. Curren (HFC) AWTP for the above referenced permit number. Please find enclosed three copies of the permit renewal package, which includes the following items:

- FDEP Permit Application Form 1 (DEP Form 62-620.910(1) with appropriate signatures
- FDEP Permit Application Form 2A (DEP Form 62.620.910(1) with attachments as required and appropriate signatures
- Updated Operations and Maintenance Performance Report
- Updated Capacity Analysis Report.

Along with these items, a Ground Water Monitoring Summary follows this cover letter. The summary for the City's reclaimed water system areas includes relevant supporting background information and data with the objective to monitor groundwater quality to meet FDEP requirements of groundwater monitoring set form in Chapter 62-520.600, Florida Administrative Code Ground Water Monitoring Requirements and Exemptions.

Additionally, the City is requesting a modification to the permit as follows:

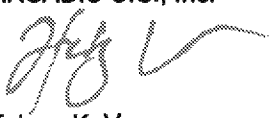
1. Elimination of quarterly monitoring of Nickle under the surface water effluent standards due to non-detect in last 5 years.
2. Elimination of quarterly monitoring for Cadmium, Chromium and Lead under the ground water monitoring requirements for the City's four wells, due to no exceedances within the last 5 year period. As an attachment to this cover

letter, the City has prepared sampling results in support of the parameter reduction.

3. An adjustment of the Total Maximum Daily Load for Total Nitrogen based on the 2009 Reasonable Assurance Addendum: Allocation & Assessment Report, and Final Orders of November 2010. The established permitted non exceedance loading rate for the 12 month rolling total is 225.8 tons/year, and the five year average of the yearly totals is 225.8 tons/year. The annual average load was calculated by using the maximum year load over the past five years and adding an additional 5% for growth. The five year rolling average was calculated by averaging the annual loads over the last 5 years and adding an additional 5% for growth. The City is in agreement with this methodology; however this renewal permit should establish the loads based on the 2009 Reasonable Assurance Addendum: Allocation & Assessment Report, and Final Orders of November 2010. Based on these documents, the City is requesting the loading be adjusted to a 12 month rolling total of 319.8 tons/year, and a 5 year average of the yearly totals of 213.2 tons/year.

Sincerely,

ARCADIS U.S., Inc.



Ifetayo K. Venner
Principal Environmental Engineer

Copies:
City of Tampa

Ground Water Monitoring

Parameter Reduction

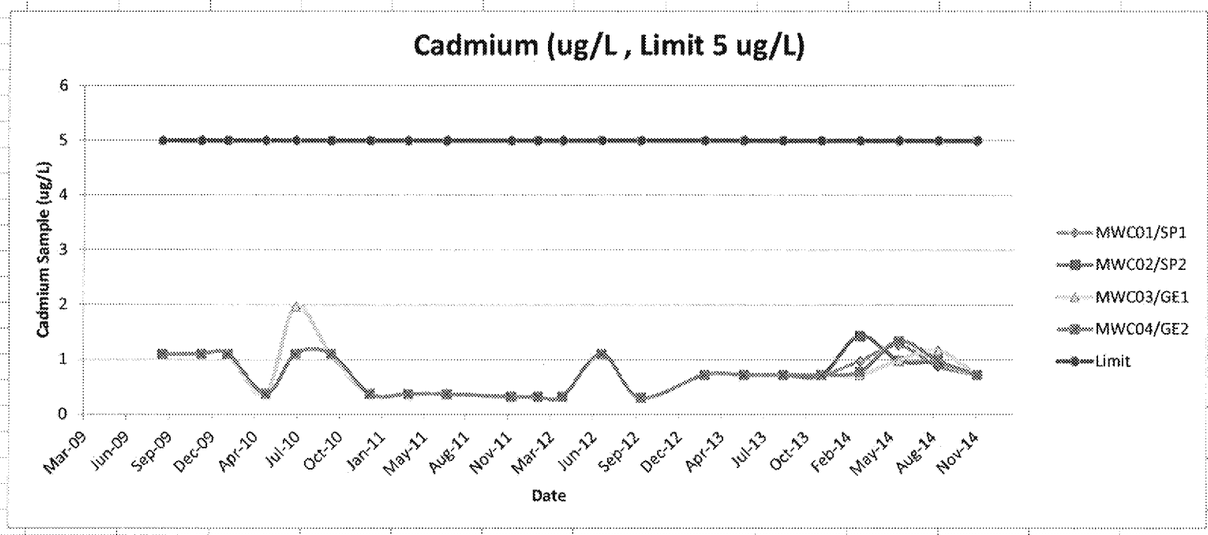
The City of Tampa requests to eliminate the quarterly monitoring for Cadmium, Chromium and Lead under our ground water monitoring requirements for all our wells. Attached are the results of sampling for these parameters for the last five years and a graph of each to illustrate trends.

All samples for Cadmium were either Below the Detection Limit or between the Method Detection Limit and the Practical Quantitative Limit.

Most of the samples for Chromium were either Below the Detection Limit or between the Method Detection Limit and the Practical Quantitative Limit. The few, actual detections above the Practical Quantitative Limit appear to be anomalies and are well below the Maximum Contaminant Level of 100 µg/L.

Most of the samples for Lead were Below the Detection Limit, with only a few that were between the Method Detection Limit and the Practical Quantitative Limit. The one actual detect above the Practical Quantitative Limit appears to be an anomaly, especially since all other samples for that well were Below the Detection Limit.

Cadmium (ug/L , Limit 5 ug/L)																							
	Jun-09	Sep-09	Dec-09	Feb-10	May-10	10-Jul	Oct-10	Jan-11	Apr-11	Jul-11	Dec-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14
MWC01/SP1	1.1	1.1	1.1	1.1	0.37	1.1	1.1	0.37	0.37	0.37	0.32	0.32	0.32	1.1	0.306	0.72	0.72	0.72	0.72	0.97	1.26	0.88	0.72
MWC02/SP2	1.1	1.1	1.1	1.1	0.37	1.1	1.1	0.37	0.37	0.37	0.32	0.32	0.32	1.1	0.306	0.72	0.72	0.72	0.72	1.43	0.98	0.94	0.72
MWC03/GE1	1.1	1.1	1.1	1.1	0.37	1.97	1.1	0.37	0.37	0.37	0.32	0.32	0.32	1.1	0.306	0.72	0.72	0.72	0.72	0.72	0.99	1.17	0.72
MWC04/GE2	1.1	1.1	1.1	1.1	0.37	1.1	1.1	0.37	0.37	0.37	0.32	0.32	0.32	1.1	0.305	0.72	0.72	0.72	0.72	0.78	1.34	0.98	0.72
Limit	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

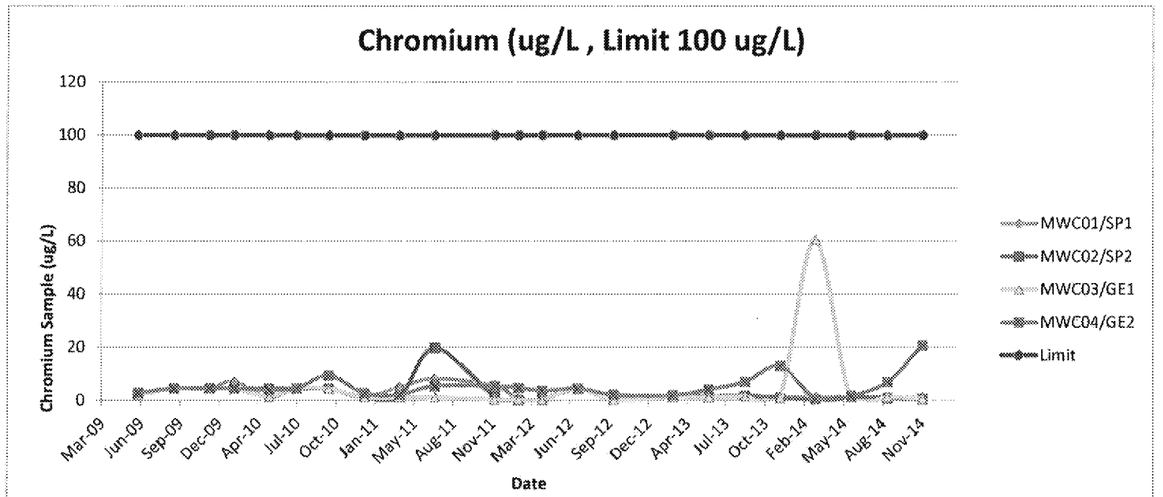


Cadmium (ug/L , Limit 5 ug/L)																							
	Jun-09	Sep-09	Dec-09	Feb-10	7/10/2010	May-10	Oct-10	Jan-11	Apr-11	Jul-11	Dec-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14
MWC01/SP1	1.1U	1.1U	1.1U	1.1U	1.1U	0.37U	1.1U	0.37U	0.37U	0.37U	0.32U	0.32U	0.32U	1.1U	0.306U	0.72U	0.72U	0.72U	0.72U	0.97I	1.26I	0.88I	0.72U
MWC02/SP2	1.1U	1.1U	1.1U	1.1U	1.1U	0.37U	1.1U	0.37U	0.37U	0.37U	0.32U	0.32U	0.32U	1.1U	0.306U	0.72U	0.72U	0.72U	0.72U	1.43I	0.98I	0.94I	0.72U
MWC03/GE1	1.1U	1.1U	1.1U	1.1U	1.97I	0.37U	1.1U	0.37U	0.37U	0.37U	0.32U	0.32U	0.32U	1.1U	0.306U	0.72U	0.72U	0.72U	0.72U	0.72U	0.99I	1.17I	0.72U
MWC04/GE2	1.1U	1.1U	1.1U	1.1U	1.1U	0.37U	1.1U	0.37U	0.37U	0.37U	0.32U	0.32U	0.32U	1.1U	0.305U	0.72U	0.72U	0.72U	0.72U	0.78I	1.34I	0.98I	0.72U
Limit	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

U = Below Detection Limit

I = Between the Method Detection Limit and the Practical Quantification Limit

Chromium (ug/L , Limit 100 ug/L)																							
	Jun-09	Sep-09	Dec-09	Feb-10	May-10	10-Jul	Oct-10	Jan-11	Apr-11	Jul-11	Dec-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14
MWC01/SP1	2	4.5	4.5	7.1	1.3	4.5	4.5	1.3	4.97	8.34	5.67	0.641	0.773	4.5	0.522	1.6	1.66	1.41	1.44	1.14	1.7	1.41	1.04
MWC02/SP2	2	4.5	4.5	4.5	4.43	4.5	4.5	1.3	1.3	19.8	1.55	0.25	0.25	4.5	0.976	1.9	1.52	1.88	1.16	0.52	1.32	0.96	0.52
MWC03/GE1	2	4.5	4.5	4.5	1.55	4.5	4.5	1.3	1.3	1.3	0.47	0.4	0.25	4.5	0.42	1.2	1.18	1.67	0.992	60.6	1.38	1.43	0.765
MWC04/GE2	2.8	4.5	4.64	4.5	4.02	4.5	9.46	2.79	2.26	5.5	5.46	4.8	3.72	4.5	2.19	2	4.22	7.12	13	0.67	1.9	7	20.8
Limit	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100



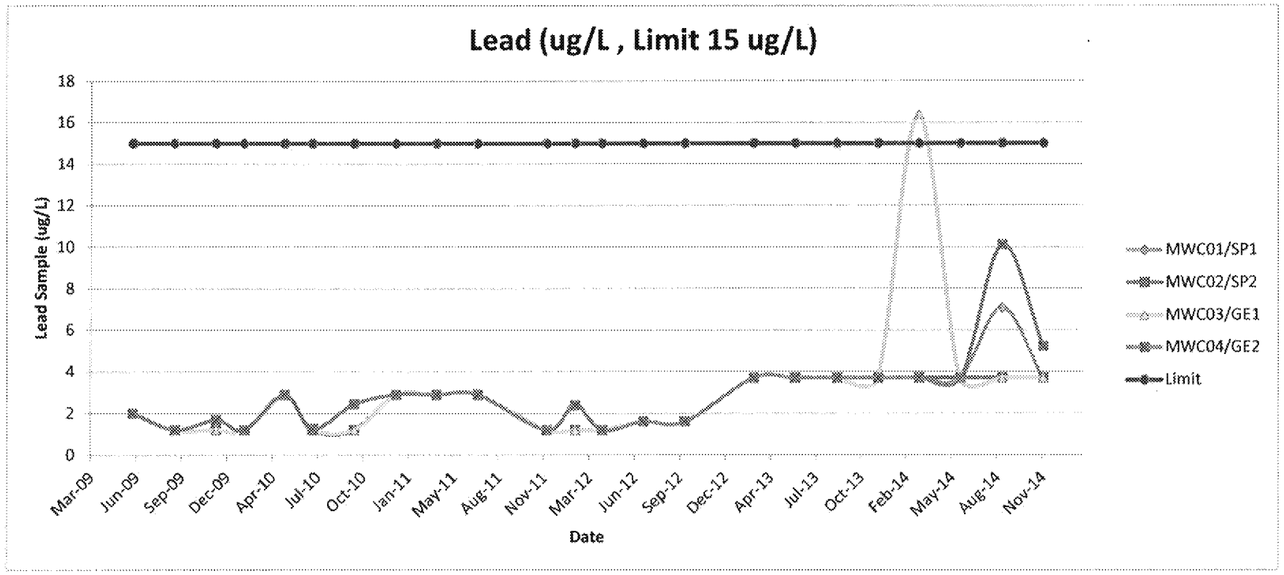
Chromium (ug/L , Limit 100 ug/L)																							
	Jun-09	Sep-09	Dec-09	Feb-10	May-10	Jul-10	Oct-10	Jan-11	Apr-11	Jul-11	Dec-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14
MWC01/SP1	2U	4.5U	4.5U	7.1I	1.3U	4.5U	4.5U	1.3U	4.97I	8.34I	5.67I V	0.641I	0.773I	4.5U	0.522I	1.6I	1.66I	1.41I	1.44I	1.14I	1.7I	1.41I	1.04I
MWC02/SP2	2U	4.5U	4.5U	4.5U	4.43I	4.5U	4.5U	1.3U	1.3U	19.8	1.55I V	0.25U	0.25U	4.5U	0.976I	1.9I	1.52I	1.88I	1.16I	0.52I	1.32I	0.96I	0.52I
MWC03/GE1	2U	4.5U	4.5U	4.5U	1.55I	4.5U	4.5U	1.3U	1.3U	1.3U	0.47I V	0.4I	0.25U	4.5U	0.42U	1.2I	1.18I	1.67I	0.992I	60.6	1.38I	1.43I	0.765I
MWC04/GE2	2.8I	4.5U	4.64I	4.5U	4.02I	4.5U	9.46I	2.79I	2.26I	5.5I	5.46I V	4.8I	3.72I	4.5U	2.19I	2.0I	4.22I	7.12I	13	0.67I	1.9I	7I	20.8
Limit	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

U = Below Detection Limit

I = Between the Method Detection Limit and the Practical Quantification Limit

V = Indicates that the analyte was detected in both the sample and the method blank

Lead (ug/L , Limit 15 ug/L)																							
	Jun-09	Sep-09	Dec-09	Feb-10	May-10	Jul-10	Oct-10	Jan-11	Apr-11	Jul-11	Dec-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14
MWC01/SP1	2	1.2	1.2	1.2	2.9	1.2	1.2	2.9	2.9	2.9	1.2	1.2	1.2	1.6	1.6	3.7	3.7	3.7	3.7	3.7	3.7	7.09	3.7
MWC02/SP2	2	1.2	1.2	1.2	2.9	1.2	1.2	2.9	2.9	2.9	1.2	1.2	1.2	1.6	1.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
MWC03/GE1	2	1.2	1.2	1.2	2.9	1.25	1.2	2.9	2.9	2.9	1.2	1.2	1.2	1.6	1.6	3.7	3.7	3.7	3.7	16.4	3.7	3.7	3.7
MWC04/GE2	2	1.2	1.67	1.2	2.9	1.25	2.44	2.9	2.9	2.9	1.2	2.39	1.2	1.6	1.6	3.7	3.7	3.7	3.7	3.7	3.7	10.1	5.21
Limit	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15



Lead (ug/L , Limit 15 ug/L)																							
	Jun-09	Sep-09	Dec-09	Feb-10	May-10	Jul-10	Oct-10	Jan-11	Apr-11	Jul-11	Dec-11	Feb-12	Apr-12	Jul-12	Oct-12	Mar-13	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14	Dec-14
MWC01/SP1	2U	1.2U	1.2U	1.2U	2.9U	1.2U	1.2U	2.9U	2.9U	2.9U	1.2U	1.2U	1.2U	1.6U	1.6U	3.7U	3.7U	3.7U	3.7U	3.7U	3.7U	7.09I	3.7U
MWC02/SP2	2U	1.2U	1.2U	1.2U	2.9U	1.2U	1.2U	2.9U	2.9U	2.9U	1.2U	1.2U	1.2U	1.6U	1.6U	3.7U	3.7U	3.7U	3.7U	3.7U	3.7U	3.7U	3.7U
MWC03/GE1	2U	1.2U	1.2U	1.2U	2.9U	1.25I	1.2U	2.9U	2.9U	2.9U	1.2U	1.2U	1.2U	1.6U	1.6U	3.7U	3.7U	3.7U	3.7U	16.4	3.7U	3.7U	3.7U
MWC04/GE2	2U	1.2U	1.67I	1.2U	2.9U	1.25I	2.44I	2.9U	2.9U	2.9U	1.2U	2.39I	1.2U	1.6U	1.6U	3.7U	3.7U	3.7U	3.7U	3.7U	3.7U	10.1I	5.21I
Limit	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

U = Below Detection Limit

I = Between the Method Detection Limit and the Practical Quantification Limit

WASTEWATER FACILITY OR ACTIVITY PERMIT
APPLICATION FORM 1
GENERAL INFORMATION

I IDENTIFICATION NUMBER:

Facility ID FL0020940

II CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?	☒	☐	X
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?	☐	☒	
C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters?	☐	☒	
D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?	☐	☒	
E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?	☐	☒	
F. Does or will this facility discharge non-process wastewater to ground waters?	☐	☒	
G. Does or will this facility discharge stormwater associated with industrial activity to surface waters?	☒	☐	
H. Is this facility a non-discharging/closed loop recycle system?	☐	☒	
I. Is this facility a public water system whose primary purpose is the production of potable water for public consumption and which discharges demineralization concentrate to surface water or groundwater?	☐	☒	

DEP Form 62-620.910(1)
(Effective July 7, 2006 Revised July 30, 2010)

III NAME OF FACILITY: (40 characters and spaces)

City of Tampa Howard F. Curren AWT Plant

Facility ID FL0020940

IV FACILITY CONTACT: (A. 30 characters and spaces)

A. Name and Title (Last, first, & title)	B. Phone (area code & no.)
Vanderschuur, Dan, Operations Supervisor	(813) 247-3451

V FACILITY MAILING ADDRESS: (A. 30 characters and spaces; B. 25 characters and spaces)

A. Street or P.O. Box: 2700 Maritime Blvd.		
B. City or Town: Tampa	State: FL	Zip Code: 33605

VI FACILITY LOCATION: (A. 30 characters and spaces; B. 24 characters and spaces; C. 3 spaces (if known); D. 25 characters and spaces; E. 2 spaces; F. 9 spaces)

A. Street, Route or Other Specific Identifier: 2700 Maritime Blvd.		
B. County Name: Hillsborough	C. County Code (if known):	
D. City or Town: Tampa	E. State: FL	F. Zip Code: 33605

VII SIC CODES: (4-digit, in order of priority)

1. Code #:	(Specify) 4952	2. Code #:	(Specify)
3. Code #:	(Specify)	4. Code #:	(Specify)

VIII OPERATOR INFORMATION: (A. 40 characters and spaces; B. 1 character; C. 1 character (if other, specify); D. 12 characters; E. 30 characters and spaces; F. 25 characters and spaces; G. 2 characters; H. 9 characters)

A. Name: City of Tampa		B. Is the name in VIII A. the owner? ☒ Yes ☐ No	
C. Status of Operator: F = Federal; S = State; P = Private; O = Other; M = Public (other than F or S)	(code) M	(specify)	D. Phone No.: (813) 247-3451
E. Street or P. O. Box: 2700 Maritime Blvd.			
F. City or Town: Tampa		G. State: FL	H. Zip Code: 33605

IX INDIAN LAND: Is the facility located on Indian lands? ☐ Yes ☒ No

Facility ID FL0020940

X EXISTING ENVIRONMENTAL PERMITS:

A. NPDES Permit No.	B. UIC Permit No.	C. Other (specify)	D. Other (specify)
DEP FL0020940		DEPAIR0570373 - 012AV	

XI MAP: Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII NATURE OF BUSINESS (provide a brief description)

The Howard F. Curren AWT Plant receives and treats all wastewater generated in the City of Tampa Service area.

XIII CERTIFICATION (see instructions)

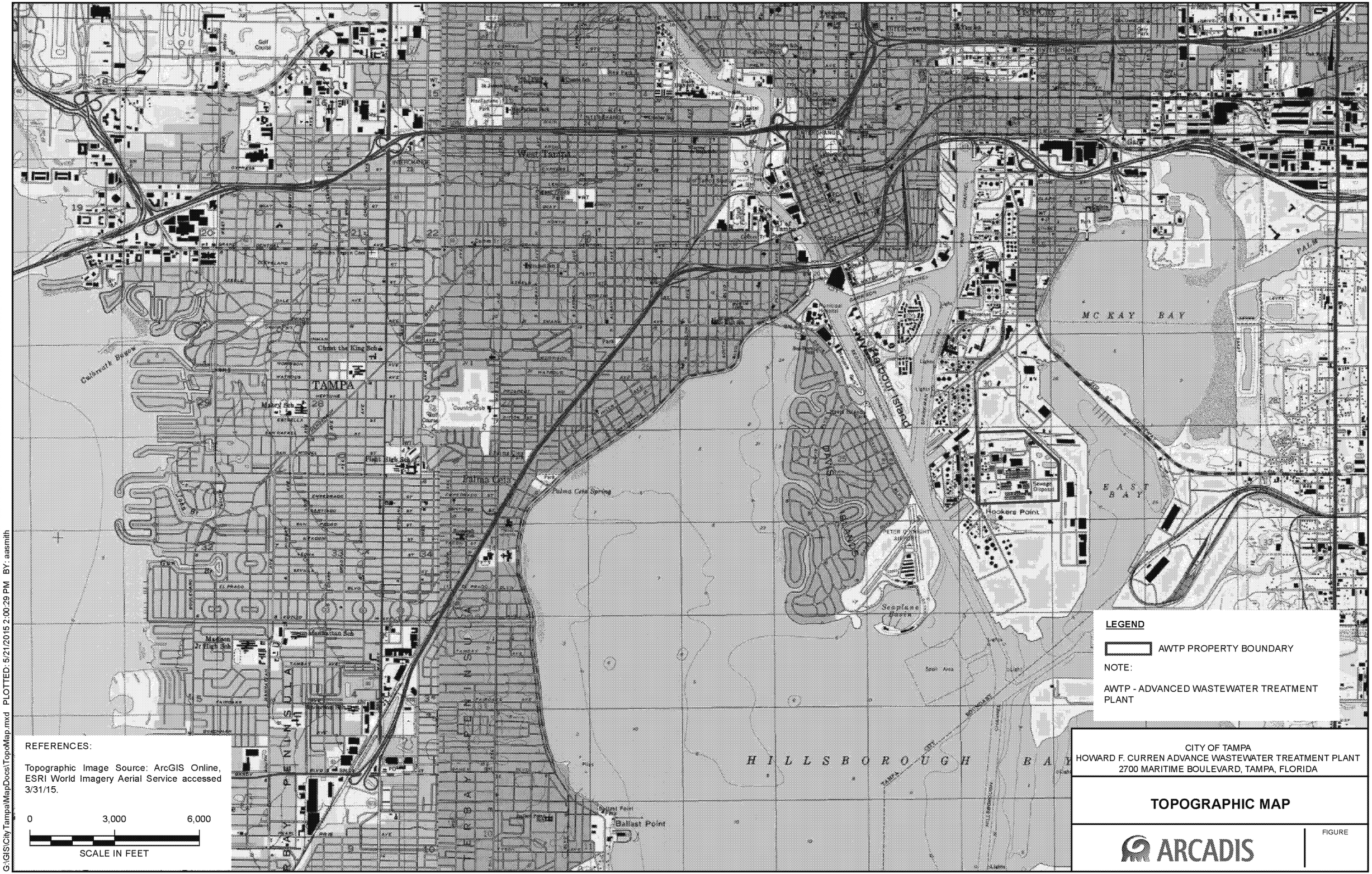
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Eric A. Weiss, P.E.
A. Name (type or print)

B. Signature

Director Wastewater Department
Official Title (type or print)

5-21-15
C. Date Signed



LEGEND

AWTP PROPERTY BOUNDARY

NOTE:

AWTP - ADVANCED WASTEWATER TREATMENT PLANT

REFERENCES:

Topographic Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/31/15.

0 3,000 6,000

SCALE IN FEET

CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA

TOPOGRAPHIC MAP

ARCADIS

FIGURE

WASTEWATER APPLICATION FORM 2A FOR A DOMESTIC WASTEWATER FACILITY PERMIT

Instructions for selected items are included in the "INSTRUCTIONS FOR FORM 2A". Refer to these instructions before filling out each item.

SECTION 1. APPLICANT AND FACILITY DESCRIPTION

1. Application Type

- ☐ New
- ☐ Substantial Modification
- ☒ Permit Renewal

2. Facility Type

- ☒ Wastewater Treatment
- ☒ Reuse or Disposal
- ☐ Limited Wet Weather Discharge
- ☐ Residuals/Septage Management

3. Treatment Facility Information

a. Name: City of Tampa, Howard F. Curren AWT Plant

b. Facility Identification Number: FL0020940

c. Location

Number and Street: 2700 Maritime Blvd.

City/State/Zip Code: Tampa, FL 33605

Telephone: (813) 247-3451

Latitude: 27 ° 55 ' 25.10 "N

Longitude: 82 ° 26 ' 14.26 "W

Dates Coordinates Determined: 12/08/03

Method Used to Obtain Coordinates: Trimble Pro XR GPS

d. Ownership Type

- ☒ Municipal
- ☐ County
- ☐ State
- ☐ Private

e. Contact

Name	Dan Vanderschuur
Title	Operations Supervisor
Telephone	(813) 247-3451

f. Facility Mailing Address

Number and Street	2700 Maritime Blvd.
City/State/Zip Code	Tampa, FL 33605

g. Year Facility Began Operation: 1951 (Primary), 1978 (AWT), 1997 (96 MGD)

4. Applicant or Authorized Representative

Legal Name	Eric A. Weiss, P.E. - Director
Number and Street	2545 Guy N. Verger Blvd.
City/State/Zip Code	Tampa, FL 33605
Telephone	(813) 274-8108
Contact Person	Dan Vanderschuur
Title	Operations Supervisor
Telephone Number	(813) 247-3451

Is the applicant the owner or operator (or both) of the facility? ☒ Owner ☒ Operator

Indicate whether correspondence regarding this facility should be directed to the facility or the applicant.
☐ Facility ☒ Applicant

5. Project Name and Description

An existing 96.0 mgd annual average daily flow (AADF) permitted capacity Type I two-stage, high rate (pure oxygen and fine bubble aeration) activated sludge biological nitrification/ denitrification domestic wastewater treatment plant. The facility has the capability to operate in a number of modes as described in the submitted basis of design.

6. Municipalities or Areas Served

Name of Municipality or Area	Ownership	Population Served
City of Tampa Service Area	Municipal/County	561,231
Incl. Hillsborough County and City of Temple Terrace		
	Total Population Served	561,231

7. **Reclaimed Water Reuse and Effluent Disposal**

Method of Reuse or Disposal	Number of Reuse or Disposal Points	Total Design Capacity (mgd)	Basis of Design Flow
Surface Waters - Excluding Ocean Outfalls and Wetlands (Rule 62-600.510, F.A.C.)	3	96 MGD	Annual Avg. Daily Flow
Ocean Outfalls (Rule 62-600.520, F.A.C.)	N/A	N/A	N/A
Wetlands (Rule 62-600.620, F.A.C.)	N/A	N/A	N/A
Reuse of Reclaimed Water and Land Application (Rule 62-600.530, F.A.C.)	3	12.62	Annual Avg. Daily Flow
Ground Water Disposal by Underground Injection (Rule 62-600.540, F.A.C.)	N/A	N/A	N/A
Other (Describe)	N/A	N/A	N/A
Total			

8. **Flows to Another Wastewater Facility**

a. Does the facility discharge or transport treated or untreated wastewater to another treatment facility?
☐ Yes ☒ No

b. If yes, describe the mean(s) by which the wastewater from the treatment facility is discharged or transported to the other treatment facility (e.g., collection/transmission system, reclaimed water distribution system)?

If transport is by a party other than the applicant, provide the following:
Transporter name: _____
Mailing Address: _____
_____
Contact person: _____
Title: _____
Telephone number: _____

c. For each treatment facility that receives this discharge, provide the following:
Name: _____
Mailing Address: _____
_____
Contact person: _____
Title: _____
Telephone number: _____

d. Facility Identification Number of Facility Which Receives the Flow

e. Average Daily Flow Rate to the Receiving Facility mgd

9. Residuals Use or Disposal

a. Amount of Residuals Generated by the Facility 10154.45 dry tons/year
(2014)

b. Does this facility receive residuals from another facility for further treatment and disposal? ☐ Yes ☒ No

c. Method of Residuals Use or Disposal

Method	Number of Sites or Number of Receiving Facilities	Dry Tons Used or Disposed per Year
Land Application (Chapter 62-640, F.A.C.)	8	10154.45
Distribution and Marketing (Chapter 62-640, F.A.C.)		
Landfill Disposal (Chapter 62-701, F.A.C.)		
Incineration (Chapter 62-200 Series, F.A.C.)		
Transport to Another Treatment Facility		
Other (Describe)		
	Total	10154.45

d. If residuals are transported to another facility for landfill disposal, incineration, or treatment, provide the facility name, Facility identification number and address.

Name N/A
Facility Identification Number
Number and Street
City/State/Zip Code
County
Telephone
Treatment Processes Used by Receiving Facility

10. Permits and Applications

a. Expiration Date of Current NPDES Permit

b. Expiration Date of Current DEP Permit 11/23/2015

c. Permit Number of Any Existing Environmental Permits

NPDES	FL0020940	PSD	
UIC		Other	DEP Air Permit N. 0570373 - 023-AV
RCRA		Other	DEP WW Permit No. FL0020940

d. Orders and Notices

Type or Order or Notice	Issuing Agency	Date of Order or Notice
Notice or Violation		
Consent Order	FDEP - OGC File No. 14-0156	June 12, 2014
Administrative Order		
Other (Describe.)		

SECTION 2. TREATMENT FACILITY DESCRIPTION

1. Flow

a. Design Capacity

Current Design Capacity	96	mgd
Proposed Incremental Design Capacity	+	mgd
Proposed Total Design Capacity	= 96	mgd

b. Basis of Design Flow

- [x] Annual Average Daily Flow
- [ ] Maximum Monthly Average Daily Flow
- [ ] Three-Month Average Daily Flow
- [ ] Other. If other, specify.

	Two Years Ago	Last Year	This Year	
c. Annual Average Daily Flow Rate	59.36	60.71	58.89	mgd
d. Maximum Daily Flow Rate	131.98	105.12	98.87	mgd

2. Design Treatment Levels

Parameter	Effluent Concentration	Units	Basis	Percent Removal
pH	>6.0 - <8.5	Standard Units		
$CBOD_5$	5	mg/L	Annual Avg.	99.1
TSS	5	mg/L	Annual Avg.	99.5
Total Nitrogen	3	mg/L	Annual Avg.	93.7

3. Disinfection Level Provided

- [ ] Low-level
- [ ] Basic
- [ ] Intermediate
- [x] High-level
- [ ] High-level Alternative

If the facility disinfects by chlorination and the discharge is to surface waters, is dechlorination provided? [x] Yes [ ] No

4. Residuals Treatment

a. Class of Residuals

- [x] Class AA (Rule 62-640.850, F.A.C.)
- [x] Class A (Rule 62-640.600, F.A.C.)
- [x] Class B (Rule 62-640.600, F.A.C.)
- [ ] Other

If other, describe

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

See Attachment I

c. Which vector attraction reduction option is met for the sewage sludge at your facility?

- [x] Option 1 (Minimum 38 percent reduction in volatile solids)
- [ ] Option 2 (Anaerobic process, with bench-scale demonstration)
- [ ] Option 3 (Aerobic process, with bench-scale demonstration)
- [ ] Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- [ ] Option 5 (Aerobic processes plus raised temperature)
- [ ] Option 6 (Raise pH to 12 and retain at 11.5)
- [ ] Option 7 (75 percent solids with no unstabilized solids)
- [x] Option 8 (90 percent solids with unstabilized solids)
- [ ] Option 9 (Injection below land surface)
- [ ] Option 10 (Incorporation into soil within 6 hours)
- [ ] Option 11 (Covering active sewage sludge unit daily)
- [ ] None or unknown

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

See Attachment I

e. Parameter Concentrations

POLLUTANT	CONC.	UNITS	Class B / Class AA Conc.
Total Nitrogen	6.95	% dry weight	5.67
Total Phosphorus	2.43	% dry weight	2.77
Total Potassium	0.088	% dry weight	0.094
Arsenic	5.6	mg/kg dry weight	5.7
Cadmium	5.0	mg/kg dry weight	6.0
Chromium	N/A	mg/kg dry weight	N/A
Copper	574	mg/kg dry weight	580
Lead	54	mg/kg dry weight	48
Mercury	0.63	mg/kg dry weight	0.44
Molybdenum	17	mg/kg dry weight	16
Nickel	27	mg/kg dry weight	21
Selenium	63	mg/kg dry weight	58
Zinc	1048	mg/kg dry weight	1500
pH	8.3	standard units	7.3
Total Solids	52.88	%	93.99
Other Parameters Fecal Coliform	N/A	#/100g	<2

Date of Sample: 12 month avg (11/1/2013-10/31/2014)

5. **Reliability Class**

- [x] Class I
- [ ] Class II
- [ ] Class III
- [ ] Other Equivalent Reliability

SECTION 3. A. DISCHARGES TO SURFACE WATERS (including wetlands)

1. Discharge Serial Number and Name

Discharge Serial Number: D001

Main Outfall

2. Discharge Location

County	Hillsborough
Street or Description	E. of ship channel, W. of Davis Island
City or Town (if applicable)	Tampa
Zip Code	33605
Latitude	27 ° 54 ' 41 "N
Longitude	82 ° 26 ' 27 "W
Dates Coordinates Determined	12/08/2003
Method Used to Obtain Coordinates	Trimble Pro XR GPS

3. Design Capacity of the Outfall

Current Design Capacity	96	mgd
Proposed Incremental Design Capacity	+	mgd
Proposed Total Design Capacity	=	mgd

4. Basis of Design Flow

- [x] Annual Average Daily Flow
- [ ] Maximum Monthly Average Daily Flow
- [ ] Three-Month Average Daily Flow
- [ ] Other

If other, specify

5. Basis for Effluent Limitations

- [x] TBEL
- [ ] Level I WQBEL
- [ ] Level II WQBEL
- [x] Other

If other, specify: Grizzle Fig

Date Effluent Limitations Established: 10/01/1990

6. Description of Receiving Waters

a. Name of Receiving Water: Hillsborough Bay

b. Type of Receiving Waterbody

- [ ] Fresh
- [x] Brackish or Marine

c. Classification of Receiving Waterbody

- [ ] Class I
- [ ] Class II
- [x] Class III
- [ ] Class IV
- [ ] Class V

Is the receiving waterbody contiguous to, or identified as, an Outstanding Florida Water (OFW) or an Outstanding National Resource Water? ☒ Yes ☐ No

If yes, name and locate on a USGS map. Contiguous to various Tampa Bay OFW
See Attachment II

Does this facility discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flow through) Indian Country? ☐ Yes ☒ No

d. Name of Watershed (if known) N/A

United States Soil Conservation Service 14-digit Watershed Code (if known) N/A

e. Name of State Management/River Basin (if known)

United States Geological Survey 8-digit Hydrologic Cataloging Unit Code (if known)

f. Critical low flow of receiving stream (if applicable) N/A

acute _____ cfs chronic _____ cfs

g. Total hardness of receiving stream at critical low flow (if applicable) N/A mg/l of $CaCO_3$

7. Outfall Information

Description of Outfall and Diffuser

D001 open pipe with bulkhead
D002 open pipe with bulkhead
D003 open pipe with bulkhead

Construction Materials		Concrete pipe				
Length From Shore	D001	141	feet	D002 0 ft	D003 0 ft	
Diameter		78	inches	72 in	96 in	
Discharge Depth Below Water Surface		-29.12	feet	-4.5 ft	-6.8 ft	
Receiving Water Bottom Depth Below Water Surface		30	feet	15.76 ft	15.76 ft	

Is the outfall equipped with a diffuser? ☐ Yes ☒ No

8. Surface Water Improvement and Management (SWIM)

a. Will the discharge affect any SWIM plan waterbodies? ☒ Yes ☐ No

b. If yes, name the waterbody Tampa Bay

c. Has the SWIM plan been approved by a water management district and the Department? ☒ Yes ☐ No April 1992

d. If yes, attach documentation that the proposed discharge is consistent with the SWIM plan.

The HFCAWTP discharge is an existing, previously permitted, outfall.

9. Additional Information Required for Intermittent or Periodic Discharges Relief outfalls D-002 and D-003

Frequency	0	Times Per Year 11/1/2013 to 10/31/2014
Duration	0	Days
Volume	0	Thousand Gallons Per Incident
Occurrence		See Attachment III

Discharges are intermittent and only occur when instantaneous plant effluent flows exceed 100 MGD and tides are excessively high.

	Jan		May		Sep
	Feb		Jun		Oct
	Mar		Jul		Nov
	Apr		Aug		Dec

10. Additional Information Required for Limited Wet Weather Discharges Permitted in Accordance with Rule 62-610.860, F.A.C.

a. Downstream Waterbody N/A

Name of nearest downstream lake, estuary, reservoir, OFW, or Class I water. Show location on a USGS map. _____

Classification of Downstream Waterbody
- ☐ Class I
- ☐ Class II
- ☐ Class III
- ☐ Class IV
- ☐ Class V

Distance Downstream _____ miles

Average Flow Velocity During Anticipated Periods of Discharge _____ feet per second

Travel Time During Anticipated Periods of Discharge _____ hours

b. Rainfall Information

Rainfall Gauging Station Location N/A

Period of Record Analyzed:
Beginning Year _____
Ending Year _____
Number of Years _____
Average Annual Rainfall _____ inches per year

c. Simulation of Operation of the Reuse, Storage, and Limited Wet Weather Discharge for an Average Rainfall Year — N/A

Year Simulated _____

Annual Rainfall During Average Year _____ inches

Number of Days Limited Wet Weather Discharge is Used During Average Rainfall Year (N) _____ days

Percent of the Days of the Year that the Limited Wet Weather Discharge will Occur During Average Rainfall Year (P) _____ %

Note:
P = [(N) / (365)] x 100%.
P cannot exceed 25% or be less than 1%.

d. Reclaimed Water Quality (maximum monthly average) — N/A

$CBOD_5$ _____ mg/L
TKN (as Nitrogen) _____ mg/L

e. Minimum Acceptable Stream Dilution Factor (SDF) — N/A

Note:
SDF = P(0.085 x $CBOD_5$ + 0.272 x TKN - 0.484)
The values for $CBOD_5$ and TKN should be in terms of maximum monthly average limitations as provided in 14.d. above. The value of P should be as calculated in 14.c. above.

f. Adjusted Stream Dilution Factor — N/A

Note:
If the travel time shown in 14.a., above, is less than 24 hours, provide the adjusted minimum acceptable stream dilution factor.
Adjusted SDF = SDF x (24 hours)/(travel time in hours)

11. Additional Information Required for Wetland Discharges — N/A

a. Is the wetland a jurisdictional wetland (i.e. within the landward extent of waters as defined in Rule 62-301.400. F.A.C., or isolated and not owned entirely by one person, or owned entirely by the State)? ☐ Yes ☐ No

b. Will the wetland be used as a treatment wetland or receiving wetland?

If the wetland is to be used as a treatment wetland, attach documentation showing ownership or the applicant's legal interest in the treatment wetland.

☐ Treatment
☐ Receiving

c. If the wetland is to be used for treatment, identify the type.

☐ Man-made
☐ Hydrologically Altered
☐ Unaltered

d. Is the wetland herbaceous or woody?

☐ Herbaceous
☐ Woody

e. Identify the classification of surface waters within the wetland.

☐ Class I
☐ Class II
☐ Class III
☐ Class IV
☐ Class V

f. Are the waters within the wetland part of an OFW?

☐ Yes ☐ No

12. Effluent Testing Information.

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.28	s.u.	-	-	-
pH (Maximum)	8.11	s.u.	-	-	-
Flow Rate	98.97	MGD	58.89	MGD	Continuous
Temperature (Winter)	79	Deg F	74	Deg F	Daily
Temperature (Summer)	86	Deg F	85	Deg F	Daily
* For pH, please report a minimum and maximum daily value.					

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	MDL/ PQL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
CARBONACEOUS BIOCHEMICAL OXYGEN DEMAND (CBOD)	3	mg/L	1	mg/L	365	SM5210B	1
TOTAL SUSPENDED SOLDS (TSS)	2.5	mg/L	0.7	mg/L	365	SM2540D	0.4
FECAL COLIFORM	77	colonies/100	1	colonies/1	365	SM9222D	1

13. Additional Application Information for Applicants with a Design Flow Greater Than or Equal to 0.1 mgd

a. Effluent Testing Data 11/1/13-10/31/14

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	MDL/ PQL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	3.01	mg/L	0.11	mg/L	365	SM4500-NH3C	0.24
CHLORINE (TOTAL RESIDUAL, TRC)	2.45	1.7	1.67	mg/L	365	Continuous	N/A
DISSOLVED OXYGEN	8.87	mg/L	7.33	mg/L	365	Continuous	N/A
TOTAL KJELDAHL NITROGEN (TKN)	4.45	mg/L	1.26	mg/L	365	SM4500-NH3C	0.68
NITRATE PLUS NITRITE	1.96	mg/L	0.88	mg/L	365	EPA353.2	0.08
NITROGEN	30	mg/L	2.21	mg/L	365	Calculated	N/A
OIL and GREASE	N/A	mg/L	N/A	mg/L	365	EPA1664	5.0
PHOSPHORUS (Total)	32	mg/L	2.79	mg/L	365	EPA365.3	0.05
TOTAL DISSOLVED SOLIDS (TDS)	1552	mg/L	1219	mg/L	365	SM2540C	N/A
OTHER PARAMETERS							

b. Inflow and Infiltration

Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration 1.76 million gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

See Attachment IV

c. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ☐ Yes ☒ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: N/A

Mailing Address:

Telephone Number:

Responsibilities of Contrator:

14. Expanded Effluent Testing Data: 1.0 mgd and Pretreatment Treatment Works. see Attachment V

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS CaCO 3)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLORO-ETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											

1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLOR-ETHYLENE											
VINYL CHLORIDE											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLORO-PHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)-ANTHRACENE											
BENZO(A)PYRENE											
3,4 BENZO-FLUORANTHENE											
BENZO(GHI)-PERYLENE											
BENZO(K)-FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORO-NAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											

DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											
1,2-DIPHENYL-HYDRAZINE											
FLUORANTHENE											
FLUORENE											
HEXACHLORO-BENZENE											
HEXACHLORO-BUTADIENE											
HEXACHLORO-CYCLO-PENTADIENE											
HEXACHLORO-ETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI-METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLORO-BENZENE											
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.											
Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.											

SECTION 3. B. REUSE AND LAND APPLICATION SYSTEMS

1. Reuse or Land Application System Serial Number and Name

Reuse or Land Application System Serial Number: R001
Part III Public Access Master
Reuse System

2. Reuse or Land Application System Location

County: Hillsborough
City or Town (if applicable): Tampa
Street or Description: See Attachment VI

Latitude: ° ' "N
Longitude: ° ' "W
Dates Coordinates Determined: see attachment VI
Method Used to Obtain Coordinates:

3. Design Capacity of the Reuse or Land Application System

Current Design Capacity: 12.62 mgd
Proposed Incremental Design Capacity: + mgd
Proposed Total Design Capacity: = 12.62 mgd

4. Basis of Design Flow

- [x] Annual Average Daily Flow
- [ ] Maximum Monthly Average Daily Flow
- [ ] Three-Month Average Daily Flow
- [ ] Other

If other, specify

5. Is land application continuous or intermittent? [ ] Continuous [x] Intermittent

6. Underdrains and Perimeter Ditches

a. Is the reuse or land application system underdrained? [ ] Yes [x] No

b. Are perimeter ditches used? [ ] Yes [x] No

If yes, will they be excavated to a depth which will intersect the seasonal high ground water table or the ground water mound during any portion of the year? [ ] Yes [x] No

7. Type of Reuse or Land Application System

- ☐ Slow-rate land application system/restricted public access (Chapter 62-610, F.A.C., Part II)
- ☒ Slow-rate land application system/public access areas, residential irrigation, and edible crop irrigation (Chapter 62-610, F.A.C., Part III)
- ☐ Rapid-rate land application system (Chapter 62-610, F.A.C., Part IV)
- ☐ Absorption field system (Chapter 62-610, F.A.C., Part V)
- ☐ Overland flow system (Chapter 62-610, F.A.C., Part VI)
- ☐ Other land application system with additional levels of preapplication treatment (Rule 62-610.660, F.A.C.)
- ☐ Other land application system with lower levels of preapplication treatment (Rule 62-610.670, F.A.C.)

8. Application Areas and Rates

Site/Use Type/Major User	Area (acres)	Rate (inches/week)	Capacity (mgd)
see attachment VI			
Total			

9. Additional Information Required for Reuse Systems Permitted Under Part III of Chapter 62-610, F.A.C.

a. Areas Irrigated

- ☒ Residential lawns
- ☒ Golf courses
- ☐ Cemeteries
- ☒ Parks, playgrounds
- ☒ Landscape areas
- ☒ Highway medians, rights-of-way
- ☐ Edible crops
- ☐ Others

If other, specify _____

b. Other Uses of Reclaimed Water

- ☒ Toilet flushing
- ☐ Fire protection
- ☒ Construction dust control
- ☒ Aesthetic purposes (decorative ponds, fountains, etc.)
- ☐ Others

If other, specify. _____

c. How many hours per day, seven days per week, is or will an operator be on-site at the wastewater treatment facility? 24 hours per day

If the treatment facility is or will be staffed by an operator less than 24 hrs/day, describe the additional levels of reliability included within the treatment or reuse systems (See Rule 62-610.462, F.A.C.)

d. For permit renewals, list the dates on which the operating protocols (as described in Rule 62-610.463, F.A.C.) were submitted to the Department and the date of the Department's approvals during the last five years.

Date Submitted	Date Approved
2015	2015

e. For each site where edible crops are or will be irrigated with reclaimed water, describe the crops grown; the type of application system used; provisions for crop washing and for processing, if any; and provisions for control of public access, if any. (See Rule 62-610.475, F.A.C.)

N/A

SECTION 3. C. GROUND WATER DISPOSAL BY UNDERGROUND INJECTION

1. Underground Injection Well Facility Serial Number and Name

Underground Injection Well Facility Serial Number: N/A

2. Underground Injection Well Facility Location

County: N/A
City or Town (if applicable):
Street or Description:

Latitude: ° ' "N
Longitude: ° ' "W
Dates Coordinates Determined:
Method Used to Obtain Coordinates:

3. Underground Injection Well Facility DEP Identification Number or Permit Application Number: N/A

4. Design Capacity of the Underground Injection Well Facility

Current Design Capacity: _____ mgd
Proposed Incremental Design Capacity: + _____ mgd
Proposed Total Design Capacity: = _____ mgd

5. Basis of Design Flow N/A

- ☐ Annual Average Daily Flow
- ☐ Maximum Monthly Average Daily Flow
- ☐ Three-Month Average Daily Flow
- ☐ Other

If other, specify.

6. Is injection continuous or intermittent? ☐ Continuous ☐ Intermittent

N/A

SECTION 4. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

1. Improvements Required

a. Discharge Serial Numbers, Reclaimed Water Reuse or Land Application System Serial Numbers, and Underground Injection Well Facility Serial Numbers Affected — N/A

b. Authority Imposing Requirement

- ☐ Local
- ☐ State
- ☐ Federal
- ☐ Developed by Applicant
- ☐ Other

If other, specify. _____

2. Implementation Schedule and Actual Completion Dates N/A

Implementation Steps	Schedule	Actual Completion
a. Preliminary Plans Complete		
b. Final Plans and Specifications Complete		
c. Financing Complete		
d. Site Acquired		
e. Begin Construction		
f. End Construction		
g. Begin Reuse or Disposal		
h. Operational Level Attained		

3. Have appropriate permits/clearances concerning other Federal/State requirements been obtained?

☐ Yes ☐ No

If so, describe briefly:

N/A

SECTION 5. INDUSTRIAL WASTEWATER CONTRIBUTIONS

1. **Does the treatment works have, or is it subject to, an approved pretreatment program?** ☒ Yes ☐ No

2. **Provide the number of each of the following types of industrial users that discharge to the treatment works.**

   a. Number of non-categorical SIUs. 9
   b. Number of CIUs. 13

3. **Significant Industrial User Information**

   Name — See Attachment VII for SIU information
   Number and Street — related to questions 3-8
   City/State/Zip Code
   County

4. **Industrial processes Affecting or Contributing to the SIU's Discharge**

5. **Principal Product(s) and Raw Material(s)**

   Principal product(s): _____
   Raw material(s): _____

6. **Flow Rate**

   a. Process wastewater flow rate.

   _____ gpd ☐ Intermittent ☐ Continuous

   b. Non-process wastewater flow rate.

   _____ gpd ☐ Intermittent ☐ Continuous

7. **Pretreatment Standards.** Indicate whether the SIU is subject to the following:

   a. Local limits ☐ Yes ☐ No

   b. Categorical pretreatment standards ☐ Yes ☐ No

   If subject to categorical pretreatment standards, which category and subcategory?

   _____

8. **Problems at the Treatment Works Attributed to Waste Discharged by the SIU.** Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years?

☐ Yes ☐ No

If yes, describe each episode.

9. **RCRA Waste.** Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?

☐ Yes ☒ No If no, go to question 12.

10. **Waste Transport.** Method by which RCRA waste is received (check all that apply):

☐ Truck ☐ Rail ☐ Dedicated Pipe

11. **Waste Description.** Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

12. **Remediation Waste.** Does the treatment works currently (or has it been modified that it will) receive waste from remedial activities?

☒ Yes (complete 13. through 15.) ☐ No

Provide a list of sites and the requested information (13. – 15.) for each current and future site.

13. **Waste Origin.** Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

See Attachment VIII for Remediation Waste Information related to questions 13-15.

14. **Pollutants.** List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

15. Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

☐ Yes ☐ No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

☐ Continuous ☐ Intermittent

If intermittent, describe discharge schedule.

SECTION 6. ADDITIONAL INFORMATION REQUIRED FOR PERMIT RENEWALS

1. Have there been any modifications to the treatment facilities or reuse or disposal system, since the issuance of the current permit? If yes, describe on a separate sheet and attach. ☐ Yes ☒ No

2. For limited wet weather discharges, have any modifications been made to the operation, frequency of discharge, or stream hydrology since the original limited wet weather discharge permit or the most recent permit. If yes, describe on a separate sheet and attach. ☐ Yes ☐ No ☒ NA

3. Have there been any violations during the last six months? If yes, describe on a separate sheet and attach. ☒ Yes ☐ No See Attachment IX

4. Have there been any treatment facility interferences due to the discharge of industrial wastewater to the treatment facility during the last six months? If yes, describe on a separate sheet and attach. ☐ Yes ☒ No

5. Is there any enforcement action pending against these treatment, reuse, or disposal facilities? If yes, describe on a separate sheet and attach. ☐ Yes ☒ No

6. Have all previous permit conditions, including pretreatment requirements, monitoring requirements, and operator attendance been complied with? If no, describe on a separate sheet and attach. ☒ Yes ☐ No

7. For permit renewals involving a limited wet weather discharge permitted under Rule 62-610.860, F.A.C., list the number of days during each of the last five years that the limited wet weather discharge was used. Also, list the total annual rainfall for each year.

Year	Number of Days Used	P (%)	Annual Rainfall (inches)
1.			
2.			
3.			
4.			
5.			
Total/Average			

8. For permit renewals involving a limited wet weather discharge permitted under Rule 62-610.860, F.A.C., provide the number of days during each of the last five years that the actual dilution ratio, as defined in Rule 62-610.860, F.A.C., was less than the minimum SDF and the number of months in which the monthly average $CBOD_5$ or TKN in the limited wet weather discharge exceeded the permit limitations. N/A

Year	Number of Days the Dilution Ratio Was Less Than SDF	Number of Months the Limits Were Exceeded	
		$CBOD_5$	TKN
1.			
2.			
3.			
4.			
5.			

SECTION 7. ADDITIONAL INFORMATION REQUIRED FOR RESIDUALS/SEPTAGE MANAGEMENT FACILITIES

1. Location of Residuals Treatment Processes N/A

(Describe in relation to the wastewater treatment processes.)

2. Type and Amount of Waste Treated at this Facility

Type	Amount (dry tons/day)	Amount (gallons/day)
Residuals	or	
Septage		
Food Establishment Sludge		
Portable Toilet Waste		
Holding Tank Waste		
Boat or Marina Waste		
Other (Describe.)	or	
Total	or	

Is the total amount estimated or actual? ☐ Estimated ☐ Actual

3. Information on Treatment Facilities Transporting Residuals N/A

a. DEP Permit Number _____

b. Facility Name _____
Number and Street _____
City/State/Zip Code _____
County _____
Telephone _____

c. Facility Type ☐ Type I ☐ Type II ☐ Type III

d. Amount of Residuals Received From This Facility _____ dry tons/day or _____ gpd

Is this amount estimate or actual? ☐ Estimated ☐ Actual

e. Describe the treatment provided by this facility before transport

f. Parameter Concentrations

POLLUTANT	CONC.	UNITS
Total Nitrogen		% dry weight
Total Phosphorus		% dry weight
Total Potassium		% dry weight
Arsenic		mg/kg dry weight
Cadmium		mg/kg dry weight
Chromium		mg/kg dry weight
Copper		mg/kg dry weight
Lead		mg/kg dry weight
Mercury		mg/kg dry weight
Molybdenum		mg/kg dry weight
Nickel		mg/kg dry weight
Selenium		mg/kg dry weight
Zinc		mg/kg dry weight
pH		standard units
Total Solids		%
Other Parameters		

Date of Sample _____

4. Describe the manifest system used for tracking residuals during transport from the facilities.

N/A

SECTION 8. DOCUMENTATION SUBMITTED

1. General Application Requirements		Attached Yes	Attached No
a. Process Flow Diagram	Attachment X	☒	☐
b. Site Plan	Attachment XI	☒	☐
c. Location Map	Attachment XII	☒	☐
d. Agricultural Use Plan or Dedicated Site Plan		☐	☒
e. Capacity Analysis Report	Attachment XIII	☒	☐
f. Results of Whole Effluent Biological Toxicity Testing	Previously submitted with DMR	☐	☒
g. Reuse Feasibility Study		☐	☒
h. Binding Agreements and Documentation of Controls on Individual Users of Reclaimed Water	Attachment XIV	☒	☐

2. Additional Application Requirements for New Facilities and Modifications to Existing Facilities	Yes	No
a. Preliminary Design Report	☐	☒
b. Documentation of Compliance with Antidegradation Requirements	☐	☒
c. Public Service Commission Certification Number and Copy of Certificate or Order Number and Copy of Order	☐	☒
d. Letter from the Management and Storage of Surface Waters Permitting Agency	☐	☒
e. Request for Approval of Monitoring Plans for Discharge of Domestic Wastewater to Wetlands	☐	☒
f. Concurrent Application for Ground Water Disposal by Underground Injection	☐	☒
g. Application for Monitoring Plan Approval	☐	☒

3. Additional Application Requirements for Permit Renewals		Yes	No
a. Operation and Maintenance Performance Report	Attachment XV	☒	☐
b. Reclaimed Water or Effluent Analysis Report	Attachment XVI	☒	☐
c. Technical Evaluation of Need to Revise Local Pretreatment Limits	Attachment XVII	☒	☐
d. Results of Mechanical Integrity Testing		☐	☒

SECTION 9. CERTIFICATIONS

1. Certifications for Construction of New Facilities or Modifications to Existing Facilities

a. Applicant or Authorized Representative

I certify that the statements made in this application for a permit and all attachments are true, correct, and complete to the best of my knowledge and belief. I agree to retain the design engineer, or another professional engineer registered in Florida, to conduct on-site observation of construction, to prepare a notification of completion of construction, and to review record drawings for adequacy as referenced in Rule 62-620.630, F.A.C. Further, I agree to provide an appropriate operation and maintenance manual for the facilities pursuant to Rule 62-620.630, F.A.C., and to retain a professional engineer registered in Florida to examine (or to prepare or revise, if necessary) the manual. For projects regulated by Chapter 62-610, F.A.C., I agree to provide the additional operation requirements of that Chapter.

(Signature of Applicant or Authorized Representative[1])	Date
Name (please type)	Company Name
Title	Company Street Address or P O Box
Telephone No. (including area code)	City, State, Zip Code

b. Professional Engineer Registered in Florida

I certify that the engineering features of this domestic wastewater project have been (designed) (examined) by me and found to conform to engineering principles applicable to such projects. In my professional judgment, this facility, when properly constructed, operated, and maintained, will comply with all applicable statutes of the State of Florida and rules of the Department.

Name (please type):	Company Name:
Florida Registration Number:	Company Street Address or P O Box
Telephone No. (including area code)	City/State/Zip Code:
	(Seal, Signature, Date, Registration No.)

[1] If signed by the authorized representative, attach a letter of authorization.

c. Professional Engineer Registered in Florida

I certify that this firm or individual has been retained by the applicant to prepare a notification of completion of construction, to prepare operation and maintenance manuals, and to review record drawings for adequacy as referenced in Rules 62-620.630, 62-600.717, and 62-600.720, F.A.C.

Name (please type):	Company Name:
Florida Registration Number:	Company Street Address or P O Box
Telephone No. (including area code)	City/State/Zip Code:
	(Seal, Signature, Date, Registration No.)

2. Certifications for Permit Renewals

a. Applicant or Authorized Representative

I certify that the statements made in this application for a permit and all attachments are true, correct and complete to the best of my knowledge and belief. I agree to operate and maintain these wastewater facilities in such a manner as to comply with the provisions of Chapter 403, F.S., Chapter 62-600, F.A.C., and all other applicable rules of the Department. Further, an appropriate operation and maintenance manual which has been examined by a professional engineer as certified below is available and located at 2700 Maritime Blvd., Tampa, Florida 33605 and can be submitted upon request as part of the permit procedure. A copy of the record drawings or other plans (as applicable) showing modifications to existing acilities, as referenced in Rule 62-600.717, F.A.C., is available at the same location. I also understand that a permit if granted by the Department, is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C., and I will notify the Department in accordance with this rule upon sale or legal transfer of the permitted facilities. In the event of abandonment or inactivation of the facilities, I will notify the Department and ensure that public health and safety are protected as required by Rule 62-620.610, F.A.C.

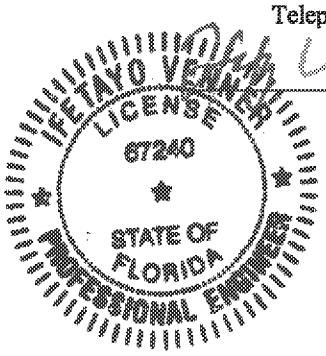
(Signature of Applicant or Authorized Representative[2])	Date
Eric A. Weiss, P.E.	City of Tampa
Name (please type)	Company Name
Director, Wastewater Department	2545 Guy N. Verger Blvd.
Title	Company Street Address or P O Box
(813) 274-8108	Tampa, Florida 33605
Telephone No. (including area code)	City, State, Zip Code

[2] If signed by the authorized representative, attach a letter of authorization.

b. Professional Engineer

I certify that the engineering features of these domestic wastewater facilities have been examined by me and found to conform to engineering principles applicable to such projects. I certify that the operation and maintenance manual for these wastewater facilities has been prepared or examined by me or by individual(s) under my direct supervision and that there is reasonable assurance, in my professional judgement, that the facilities, when properly operated and maintained in accordance with this manual, will comply with all applicable statutes of the State of Florida and rules of the Department.

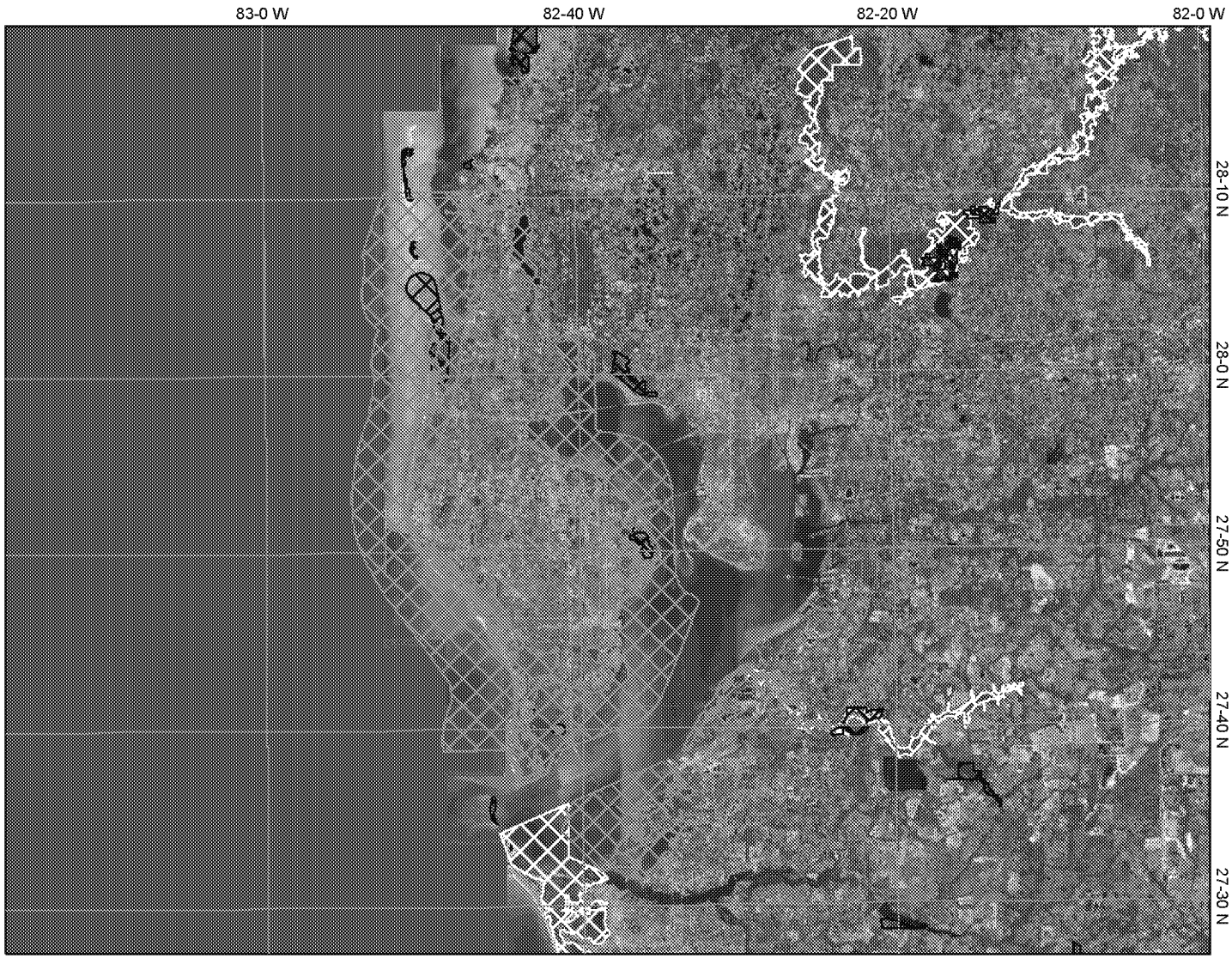
Ifetayo Venner, PE	ARCADIS
Name (please type):	Company Name:
67240	14025 Riveredge Drive Suite 600
Florida Registration Number:	Company Street Address or P O Box
813-353-5751	Tampa, Florida 33637
Telephone No. (including area code)	City/State/Zip Code:

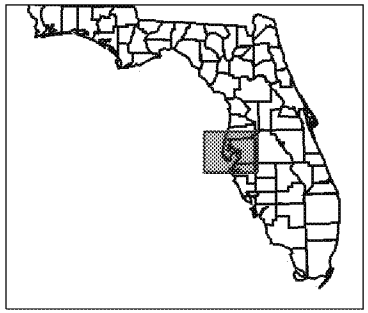


67240 5/21/15

(Seal, Signature, Date, Registration No.)

Consolidated Application





Legend

Outstanding Florida Waters

- AP OFWs
- Other OFWs
- Special OFWs

Scale: 1:678,098

Map center: 533947, 432418

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: Map produced on Mon Mar 30 14:14:57 EDT 2009

Discharge DMR Flow (MGD)			
	D-001 (avg)	D-002 (daily)	D-003 (daily)
Nov-13	51.85	0.00	0.00
Dec-13	49.64	0.00	0.00
Jan-14	51.58	0.00	0.00
Feb-14	54.02	0.00	0.00
Mar-14	55.74	0.00	0.00
Apr-14	54.30	0.00	0.00
May-14	55.64	0.00	0.00
Jun-14	52.75	0.00	0.00
Jul-14	57.35	0.00	0.00
Aug-14	57.37	0.00	0.00
Sep-14	63.29	0.00	0.00
Oct-14	61.88	0.00	0.00

*Source: Discharge DMR Data

Attachment IV

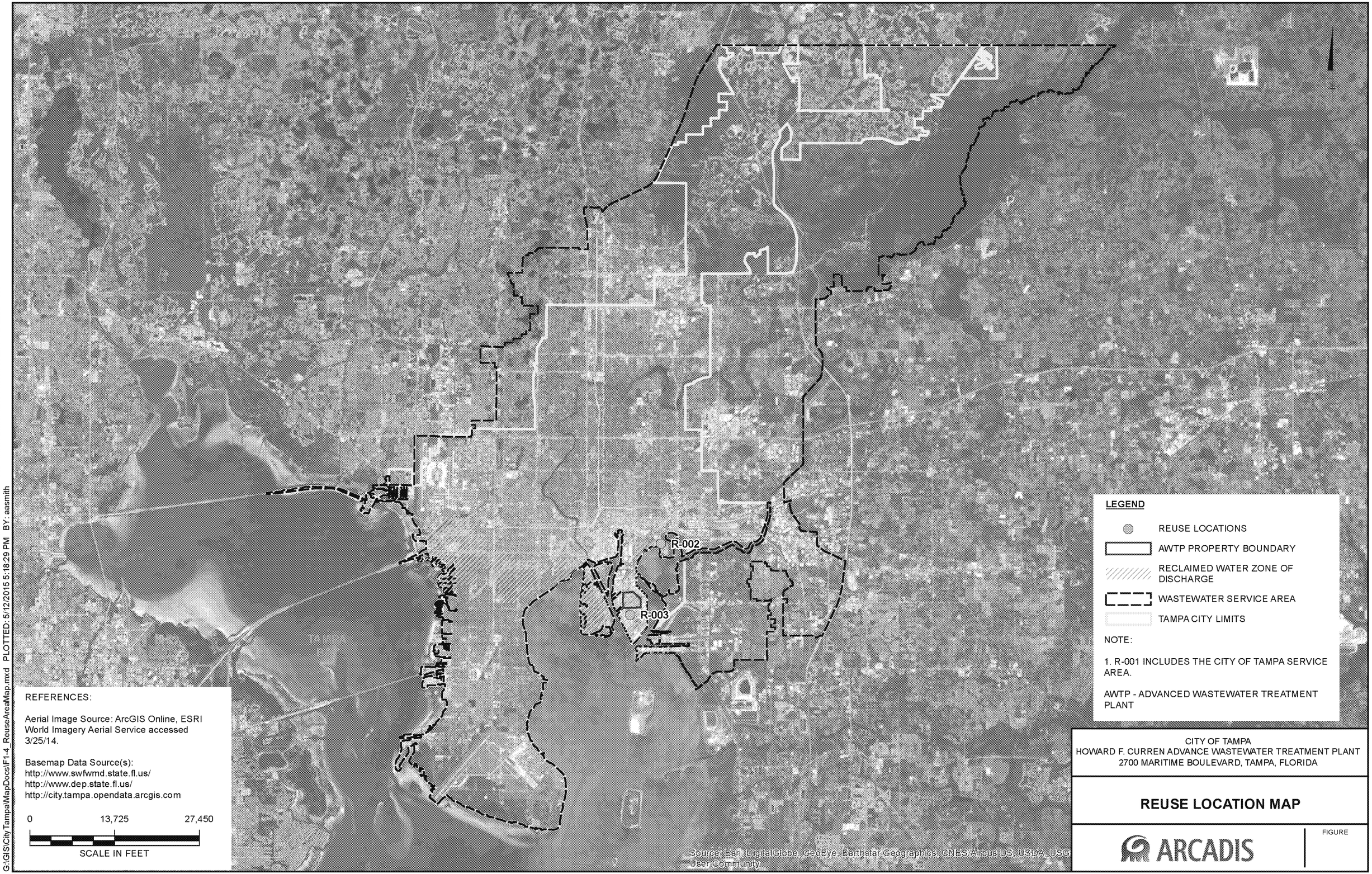
The City of Tampa's Howard F. Curren AWTP currently has approximately 3% (1.76 MGD) of its flow on average into the treatment works as Inflow and Infiltration (I&I). The City is spending approximately $4 million per year to prevent instances of I&I and will continue this maintenance practice. This includes smoke testing and videoing gravity systems and force mains; lining, repairing and replacing gravity lines, force mains and manholes; and rehabilitation of existing Lift Stations.

Expanded Effluent Testing Data

Pollutant	Maximum Daily Discharge					Average Daily Discharge						Analytical Methods	ML/MDL (µg/L)
	Conc.	Unit	Mass	Unit	Qualifier[1]	Conc.	Unit	Mass	Unit	Number of Samples	Qualifier[1]		
Volatile Organic Compounds													
Acrolein	3.8	µg/L	1.92	ppd	U	3.8	µg/L	1.73	ppd	3	U	624	3.8
Acrylonitrile	1.2	µg/L	0.61	ppd	U	1.2	µg/L	0.54	ppd	3	U	624	1.2
Benzene	0.5	µg/L	0.25	ppd	U	0.5	µg/L	0.23	ppd	3	U	624	0.5
Bromoform	7.9	µg/L	3.41	ppd		5.1	µg/L	2.20	ppd	3		624	6.5
Carbon Tetrachloride	0.42	µg/L	0.21	ppd	U	0.42	µg/L	0.19	ppd	3	U	624	0.42
Chlorobenzene	0.63	µg/L	0.32	ppd	U	0.63	µg/L	0.29	ppd	3	U	624	0.63
Chlorodibromomethane	40	µg/L	17	ppd		28	µg/L	12	ppd	3		624	1
Chloroethane	2.5	µg/L	1.26	ppd	U	2.5	µg/L	1.14	ppd	3	U	624	2.5
2-Chloroethyl vinyl ether	0.95	µg/L	0.48	ppd	U	0.95	µg/L	0.43	ppd	3	U	624	0.95
Chloroform	51	µg/L	26	ppd		32	µg/L	15	ppd	3		624	0.9
Dichlorobromomethane	38	µg/L	16	ppd		32	µg/L	14	ppd	3		624	1
1,1-Dichloroethane	0.52	µg/L	0.26	ppd	U	0.52	µg/L	0.24	ppd	3	U	624	0.52
1,2-Dichloroethane	0.57	µg/L	0.29	ppd	U	0.57	µg/L	0.26	ppd	3	U	624	0.57
Trans-1,2-Dichloroethene	0.44	µg/L	0.22	ppd	U	0.44	µg/L	0.20	ppd	3	U	624	0.44
1,1-Dichloroethene	0.45	µg/L	0.23	ppd	U	0.45	µg/L	0.20	ppd	3	U	624	0.45
cis-1,2-Dichloroethene	0.65	µg/L	0.33	ppd	U	0.65	µg/L	0.30	ppd	3	U	624	0.65
1,2-Dichloropropane	0.52	µg/L	0.26	ppd	U	0.52	µg/L	0.24	ppd	3	U	624	0.52
cis-1,3-Dichloropropene	0.14	µg/L	0.07	ppd	U	0.14	µg/L	0.06	ppd	3	U	624	0.14
Trans-1,3-Dichloropropene	0.14	µg/L	0.07	ppd	U	0.14	µg/L	0.06	ppd	3	U	624	0.14
Ethylbenzene	0.44	µg/L	0.22	ppd	U	0.44	µg/L	0.20	ppd	3	U	624	0.44
Methyl Bromide = Bromomethane	2.5	µg/L	1.26	ppd	U	2.5	µg/L	1.14	ppd	3	U	624	2.5
Methyl Chloride = Chloromethane	1	µg/L	0.50	ppd	U	1	µg/L	0.45	ppd	3	U	624	1
Methylene Chloride	4	µg/L	2.02	ppd	U	4	µg/L	1.82	ppd	3	U	624	4
1,1,2,2-Tetrachloroethane	0.15	µg/L	0.08	ppd	U	0.15	µg/L	0.07	ppd	3	U	624	0.15
Tetrachloroethene	0.5	µg/L	0.25	ppd	U	0.5	µg/L	0.23	ppd	3	U	624	0.5
Toluene	0.51	µg/L	0.26	ppd	U	0.51	µg/L	0.23	ppd	3	U	624	0.51
1,1,1-Trichloroethane	0.46	µg/L	0.23	ppd	U	0.46	µg/L	0.21	ppd	3	U	624	0.46
1,1,2-Trichloroethane	0.47	µg/L	0.24	ppd	U	0.47	µg/L	0.21	ppd	3	U	624	0.47
Trichloroethene	0.5	µg/L	0.25	ppd	U	0.5	µg/L	0.23	ppd	3	U	624	0.5
Vinyl chloride	0.5	µg/L	0.25	ppd	U	0.5	µg/L	0.23	ppd	3	U	624	0.5
Semivolatile Organic Compounds													
1,2,4-Trichlorobenzene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
1,2-Dichlorobenzene	1	µg/L	0.50	ppd	U	1	µg/L	0.45	ppd	3	U	625	1
1,2-Diphenylhydrazine	2	µg/L	1.01	ppd	U	2	µg/L	0.91	ppd	3	U	625	2
1,3-Dichlorobenzene	1	µg/L	0.50	ppd	U	1	µg/L	0.45	ppd	3	U	625	1
1,4-Dichlorobenzene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
2,2'-oxybis[1-chloropropane]	2	µg/L	1.01	ppd	U	2	µg/L	0.91	ppd	3	U	625	2
2,4,6-Trichlorophenol	1.8	µg/L	0.91	ppd	U	1.8	µg/L	0.82	ppd	3	U	625	1.8
2,4-Dichlorophenol	1.7	µg/L	0.86	ppd	U	1.7	µg/L	0.77	ppd	3	U	625	1.7
2,4-Dimethylphenol	1.7	µg/L	0.86	ppd	U	1.7	µg/L	0.77	ppd	3	U	625	1.7
2,4-Dinitrophenol	5.9	µg/L	2.98	ppd		5.83	µg/L	2.65	ppd	3		625	5.8
2,4-Dinitrotoluene	0.87	µg/L	0.44	ppd		0.86	µg/L	0.39	ppd	3		625	0.86
2,6-Dinitrotoluene	0.69	µg/L	0.35	ppd		0.68	µg/L	0.31	ppd	3		625	0.68
2-Chloronaphthalene	1.5	µg/L	0.76	ppd	U	1.5	µg/L	0.68	ppd	3	U	625	1.5
2-Chlorophenol	2	µg/L	1.01	ppd	U	2	µg/L	0.91	ppd	3	U	625	2
2-Nitrophenol	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
3,3'-Dichlorobenzidine	1.5	µg/L	0.76	ppd	U	1.5	µg/L	0.68	ppd	3	U	625	1.5
4,6-Dinitro-2-methylphenol	1.4	µg/L	0.71	ppd	U	1.4	µg/L	0.64	ppd	3	U	625	1.4
4-Bromophenyl phenyl ether	1.6	µg/L	0.81	ppd	U	1.6	µg/L	0.73	ppd	3	U	625	1.6
4-Chloro-3-methylphenol	1.6	µg/L	0.81	ppd	U	1.6	µg/L	0.73	ppd	3	U	625	1.6
4-Chlorophenyl phenyl ether	1.7	µg/L	0.86	ppd	U	1.7	µg/L	0.77	ppd	3	U	625	1.7
4-Nitrophenol	5.9	µg/L	2.98	ppd		5.83	µg/L	2.65	ppd	3		625	5.8
Acenaphthene	1.4	µg/L	0.71	ppd	U	1.4	µg/L	0.64	ppd	3	U	625	1.4
Acenaphthylene	1.7	µg/L	0.86	ppd	U	1.7	µg/L	0.77	ppd	3	U	625	1.7
Anthracene	0.95	µg/L	0.48	ppd		0.94	µg/L	0.43	ppd	3		625	0.94
Benzidine	17	µg/L	8.58	ppd	U	17	µg/L	7.72	ppd	3	U	625	17
Benzo[a]anthracene	1.5	µg/L	0.76	ppd	U	1.5	µg/L	0.68	ppd	3	U	625	1.5
Benzo[a]pyrene	0.94	µg/L	0.47	ppd		0.93	µg/L	0.42	ppd	3		625	0.93
Benzo[b]fluoranthene	1.5	µg/L	0.76	ppd	U	1.5	µg/L	0.68	ppd	3	U	625	1.5
Benzo[g,h,i]perylene	1	µg/L	0.50	ppd	U	1	µg/L	0.45	ppd	3	U	625	1
Benzo[k]fluoranthene	1.2	µg/L	0.61	ppd	U	1.2	µg/L	0.54	ppd	3	U	625	1.2
Bis(2-chloroethoxy)methane	1.9	µg/L	0.96	ppd	U	1.9	µg/L	0.86	ppd	3	U	625	1.9
Bis(2-chloroethyl)ether	2.5	µg/L	1.26	ppd	U	2.5	µg/L	1.14	ppd	3	U	625	2.5
Bis(2-ethylhexyl) phthalate	1.2	µg/L	0.61	ppd	U	1.2	µg/L	0.54	ppd	3	U	625	1.2
Butyl benzyl phthalate	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
Chrysene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
Dibenz(a,h)anthracene	0.95	µg/L	0.48	ppd		0.94	µg/L	0.43	ppd	3		625	0.94
Diethyl phthalate	2.4	µg/L	1.21	ppd	U	2.4	µg/L	1.09	ppd	3	U	625	2.4
Dimethyl phthalate	2.4	µg/L	1.21	ppd	U	2.4	µg/L	1.09	ppd	3	U	625	2.4
Di-n-butyl phthalate	2.4	µg/L	1.21	ppd	U	2.4	µg/L	1.09	ppd	3	U	625	2.4
Di-n-octyl phthalate	2.4	µg/L	1.21	ppd	U	2.4	µg/L	1.09	ppd	3	U	625	2.4
Fluoranthene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
Fluorene	1.6	µg/L	0.81	ppd	U	1.6	µg/L	0.73	ppd	3	U	625	1.6
Hexachlorobenzene	1.6	µg/L	0.81	ppd	U	1.6	µg/L	0.73	ppd	3	U	625	1.6
Hexachlorobutadiene	0.95	µg/L	0.48	ppd		0.94	µg/L	0.43	ppd	3		625	0.94
Hexachlorocyclopentadiene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
Hexachloroethane	0.81	µg/L	0.41	ppd		0.80	µg/L	0.36	ppd	3		625	0.8
Indeno[1,2,3-cd]pyrene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
Isophorone	1.3	µg/L	0.66	ppd	U	1.3	µg/L	0.59	ppd	3	U	625	1.3
Naphthalene	1.2	µg/L	0.61	ppd	U	1.2	µg/L	0.54	ppd	3	U	625	1.2
Nitrobenzene	1.8	µg/L	0.91	ppd	U	1.8	µg/L	0.82	ppd	3	U	625	1.8
N-Nitrosodimethylamine	2.3	µg/L	1.16	ppd	U	2.3	µg/L	1.04	ppd	3	U	625	2.3
N-Nitrosodi-n-propylamine	1.8	µg/L	0.91	ppd	U	1.8	µg/L	0.82	ppd	3	U	625	1.8
N-Nitrosodiphenylamine	1.5	µg/L	0.76	ppd	U	1.5	µg/L	0.68	ppd	3	U	625	1.5

Pentachlorophenol	1.4	µg/L	0.71	ppd	U	1.4	µg/L	0.64	ppd	3	U	625	1.4
Phenanthrene	1.2	µg/L	0.61	ppd	U	1.2	µg/L	0.54	ppd	3	U	625	1.2
Phenol	2.3	µg/L	1.16	ppd	U	2.3	µg/L	1.04	ppd	3	U	625	2.3
Pyrene	1.1	µg/L	0.56	ppd	U	1.1	µg/L	0.50	ppd	3	U	625	1.1
Metals													
Antimony	4	µg/L	2.02	ppd	U	4	µg/L	1.82	ppd	3	U	200.7 Rev 4	4
Arsenic	4	µg/L	2.02	ppd	U	4	µg/L	1.82	ppd	3	U	200.7 Rev 4	4
Cadmium	1	µg/L	0.50	ppd	U	1	µg/L	0.45	ppd	3	U	200.7 Rev 4	1
Chromium	2	µg/L	1.01	ppd	U	2	µg/L	0.91	ppd	3	U	200.7 Rev 4	2
Lead	2.5	µg/L	1.08	ppd		2.2	µg/L	0.98	ppd	3		200.7 Rev 4	2
Nickel	3.6	µg/L	1.57	ppd		3.3	µg/L	1.49	ppd	3		200.7 Rev 4	2
Selenium	5.4	µg/L	2.52	ppd		5.1	µg/L	2.33	ppd	3		200.7 Rev 4	5
Silver	1	µg/L	0.50	ppd	U	1	µg/L	0.45	ppd	3	U	200.7 Rev 4	1
Zinc	26	µg/L	11.21	ppd		19.3	µg/L	8.62	ppd	3		200.7 Rev 4	5
Beryllium	0.25	µg/L	0.13	ppd	U	0.25	µg/L	0.11	ppd	3	U	200.8	0.25
Copper	3.8	µg/L	1.62	ppd		2.3	µg/L	1.05	ppd	3		200.8	1.1
Thallium	0.5	µg/L	0.25	ppd	U	0.5	µg/L	0.23	ppd	3	U	200.8	0.5
Mercury	0.00089	µg/L	0.00038	ppd		0.00057		0.00026	ppd	3		1631E	0.0002
Cyanide	12	µg/L	5.55	ppd		10.6		4.84	ppd	3		General Chemistry	2.5
Phenolics, Total Recoverable	54	µg/L	23	ppd		35	µg/L	15	ppd	3		General Chemistry	25

(1) "U" indicates that the compound was analyzed for but not detected



CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
G:\GIS\City\Tampa\MapDocs\F1-4_ReuseAreaMap.mxd PLOTTED: 5/12/2015 5:18:29 PM BY: aasmith

CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA

REUSE LOCATION MAP

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FIGURE

Section 3 B Reuse and Land Application Systems

Part 8 Application Areas and Rates

Site/Use Type/Major User	Area (acres)	Rate (inches/week)	Capacity (mgd)
R-001 – Slow Rate Public Access Reuse			
STAR	1,611		4.25
Phase A			1.3
Tampa International Airport			0.23
Tampa Port Authority			0.22
Total			6
R-002 – Industrial Reuse System – latitude 27° 56' 56" N, longitude 82°, 25' 19" W			
City of Tampa Refuse To Energy Facility			2.3
R-003 – Industrial Reuse System - latitude 27° 55' 02" N, longitude 82°, 26' 14" W			
C.F. Industries			4.3

There are two significant sites at which remedial wastes are discharged to the treatment works. Wastes have been discharged at one of the two sites for thirty years. Wastes at the other site have been discharged for fifteen years. It is anticipated that wastes will be discharged at both sites indefinitely. The wastes at both of the sites are pretreated to the extent that the pollutant concentrations are non-detectable prior to entering the treatment works. Information regarding these sites follows.

It is common that wastes from remedial activities of short duration (less than three months) are discharged to the treatment works at a few locations each year. These activities are typically associated with underground storage tank remediation, roadway construction, or site development. The pollutants are typically petroleum-based. Treatment of the wastes to non-detectable pollutant concentrations is required prior to entering the treatment works.

13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

Former Honeywell Facility
3602 W. Waters Ave.
Tampa, FL 33614

Honeywell operated a manufacturing facility at the site beginning the 1970's. Circuit board manufacturing was one of the many activities occurring at the facility. In the early 1980's, surficial contamination was detected onsite. Treated wastes were discharged to the treatment works beginning in 1984. The facility closed in 1987.

14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary.)

The groundwater pollutants of concern were identified as 1,1,1-trichloromethylene, 1,1,1,-trichloroethane, and Methylene chloride. In the late 1990's another pollutant was identified, 1,4-dioxane. The total pollutant concentrations are less than 800 ug/l in the affected groundwater. The wastes are treated to non-detectable concentrations prior to entering the treatment works. The treated wastes are discharged at a rate of about 30 gpm.

15. Treatment.

a. Is this waste treated (or will it be treated prior to entering the treatment works)?

__X__ Yes No

If yes, describe the treatment (Provide information about removal efficiency):

All of the waste is treated by an air-stripping system prior to entering the treatment works. The treatment system achieves 100% pollutant removal efficiency. The discharge is continuous. Attached is a recent report providing analytical and flow data for the site.

b. Is the discharge (or will the discharge be) continuous or intermittent?

__X__ Continuous Intermittent

If intermittent, describe discharge schedule.

13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

Former Stauffer Chemical Facility
2009 N. Orient Rd.
Tampa, FL 33619

Stauffer Chemical formulated and packaged agricultural chemicals at the site from 1951 until operations were discontinued in 1986. In 1995 the EPA issued an order to remediate groundwater, surficial soils, and pond sediment at the site. Treated wastes were discharged to the treatment works beginning in 2000.

14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary.)

The groundwater pollutants of concern are the following organochlorine pesticides and proprietary chlorinated pesticides.

Cl-Pesticides

Aldrin
Alpha-BHC
Beta-BHC
Gamma-BHC (Lindane)
Delta-BHC
Chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Methoxychlor
Toxaphene

Proprietary Pesticides

Atrazine
Butylate
Carbophenothion
Cycloate
EPTC
Ethyl parathion
Fonophos
Methyl carbophenothion
Molinate
Pebulate
Sumathion
Vernolate

The total pollutant concentrations are less than 100 ug/l in the affected groundwater. The wastes are treated to non-detectable concentrations prior to entering the treatment works. The treated wastes are discharged at a rate of about 15 gpm.

15. Treatment.

a. Is this waste treated (or will it be treated prior to entering the treatment works)?

__X__ Yes No

If yes, describe the treatment (Provide information about removal efficiency):

All of the waste is treated by a bag-filter and carbon adsorption system prior to entering the treatment works. The treatment system achieves 100% pollutant removal efficiency. The discharge is continuous. Attached is a recent report providing analytical and flow data for the site.

b. Is the discharge (or will the discharge be) continuous or intermittent?

__X__ Continuous Intermittent

If intermittent, describe discharge schedule.

Permit Excursions from DMRs, November 2013 through October 2014

Permit Excursion 12-6-13

1. On sample date 12-6-13 the Final Effluent Fecal Sample contained 77 colonies in the 100 ml sample. The Chlorine residual was 3.24 mg/L.

   Cause:
   After investigating the process conditions including the detention time in the Chlorine Contact Chamber (CCC) there was no outstanding reason for the high population of Fecal Coliform colonies found. The plant process and its systems appear to be operating normally. The only difference is the colder weather causing some biofilm/algae to slough off the walls. The sample showed some debris on the filter paper which we think caused the contamination.

   Remedy:
   We are continuing to monitor the situation as well modifying some operating parameters one at a time to try and identify a specific root cause.

Permit Excursion 8/14/2014

1. On sample date 8/14/2014 the maximum chlorine residual in the final effluent was 0.10 mg/L for approximately 15 minutes at 9:00 PM.

   Cause:
   Flow fluctuations caused the pre-SO_2 chlorine residual to be higher than anticipated during the time that the area operator was collecting samples, and an inefficient amount of SO_2 was being fed to dechlorinate the higher residual at that time.

   Remedy:
   The operator will maintain a higher safety buffer of SO_2 feed to compensate for out-of-ordinary chlorine swings.

Permit Excursion 10-3-14

1. The fecal coliform count for 10/3/2014 was 34 col/100mL.

   Cause:
   No apparent cause was found, and the coliform counts for every other day in October was <1 col/100mL. Therefore this sample was an anomaly and was more than likely contaminated.

   Remedy:
   More care being taken in collecting fecal coliform grab samples.

Permit Excursion 10-7-14

1. On 10-7-14, at 8:47 AM, the final effluent Pre-SO_2 Chlorine residual dropped below 1.0 mg/l. The operator began to divert flow to the empty contact chamber to minimize the volume of water discharged, but the flow was not able to be completely stopped. At 8:54 AM the residual was back up over 1.0 mg/l and normal flow was established.

   The reuse system was off during this time.

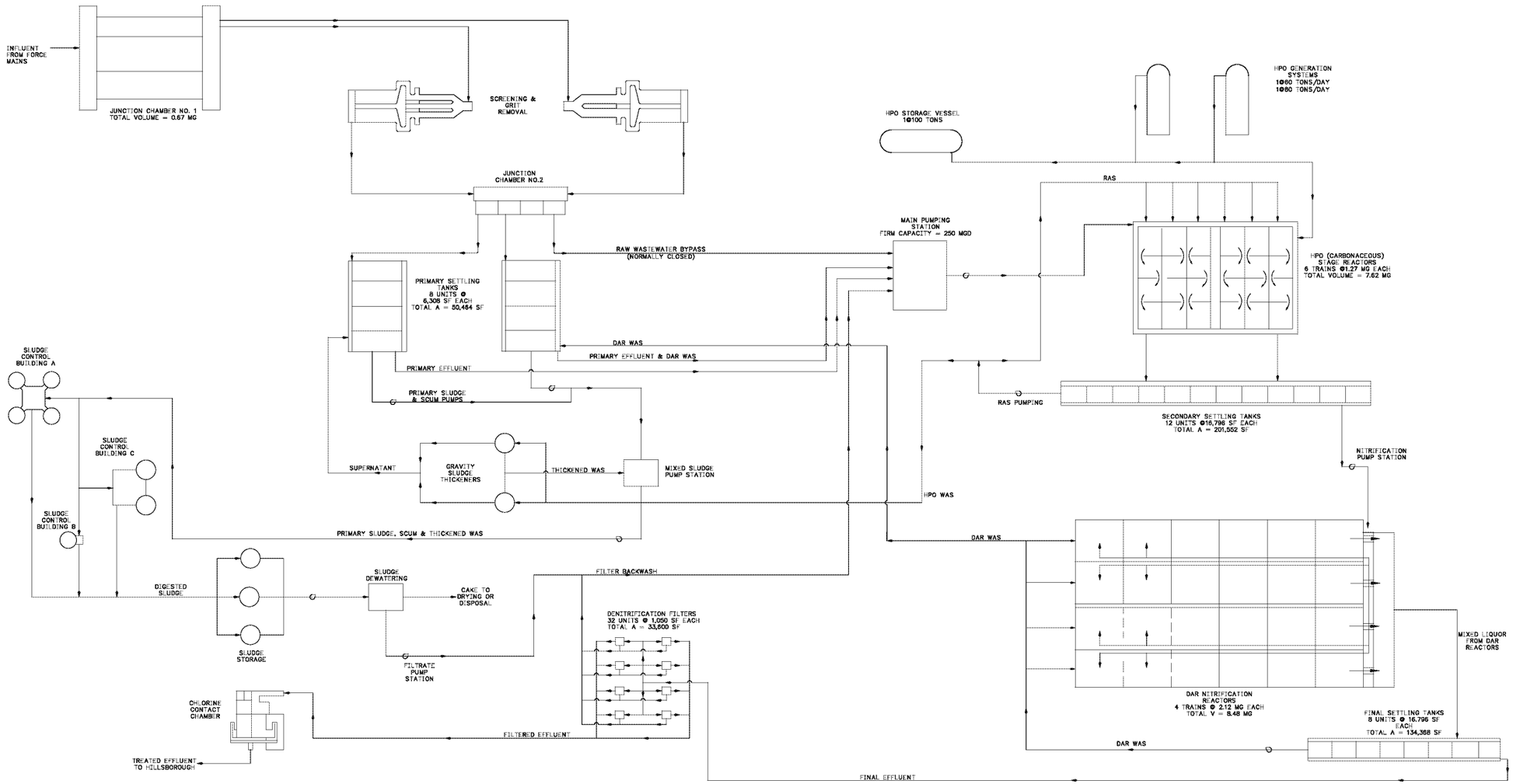
   Cause:
   There was a planned power outage performed to test the emergency generators which shut off all power to the plant. The generators started up but failed to energize the plant grid, so the chlorine solution pumps were not able to be restarted causing the chlorine residual to drop.

Remedy:
Delay sending flow to the filter building after power is restored so under chlorinated effluent can be diverted to empty contact chamber quicker.

2. On 10-7-14, at 8:47, the final effluent pH dropped below 6.5. At 9:17 the pH was above 6.5 once chlorination was resumed. The reuse system was off during this time.

   Cause:
   The chlorine residual dropped and the flow over the weir was reduced to a minimum due to the power outage mentioned above. Because of the activities of having to deal with the issues of the outage, SO2 feed was not reduced enough which caused the pH to drop.

   Remedy:
   Reduce SO2 feed to a minimum possible when chlorine residual and flow over the weir are so low.



Junction Chamber #1

Influent Flow	96 MGD
Volume	0.67 MG

Screen and Grit Facilities

Mechanical Screens	5
Mechanical Screen Capacity	55 MGD
Grit Tanks	8
Grit Tank Dimensions	45' x 45'
Surface Area of Each Tank	2025 ft²

Primary Settling Tanks

Number of Tanks	8
Average Water Depth	13.1'
Surface Area of Each Tank	6308 ft²
Total Volume	4.94 MG

Main Pumping Station

Pumps	7
Total Pump Capacity	300 MGD

High Purity Oxygen (HPO) Reactors

Number of Reactors	6
Volume per Reactor	1.27 MG
Total Reactor Volume	7.62 MG

Secondary Settling Tanks

Number of Tanks	12
Surface Area of Each Tank	16796 ft²
Total Surface Area	201552 ft²

Diffused Air Reactors (DAR's)

Number of Reactors	4
Volume per Reactor	2.12 MG
Total Reactor Volume	8.48 MG

Final Settling Tanks

Number of Tanks	8
Surface Area of Each Tank	16796 ft²
Total Surface Area	134368 ft²

Denitrification Filters

Number of Filters	32
Surface Area of Each Filter	1050 ft²
Total Surface Area	33600 ft²

Chlorine Contact Chamber

Number of Tanks	3
Tank Volume	0.79 MG
Total Tank Volume	2.38 MG

Gravity Thickeners

Number of Tanks	2
Thickening Area of Each Tank	2376 ft²
Total Thickening Area	4752 ft²

Anaerobic Digesters

Number of Digesters	7
Total Volume of Digesters	9,873,280 gal

Sludge Dewatering Building

Number of Dewatering Units	8
Flow Rate Per Dewatering Unit	62 GPM

Heat Drying Facility

Number of Heat Drying Trains	2
Sludge Applied	676,300 lb/day

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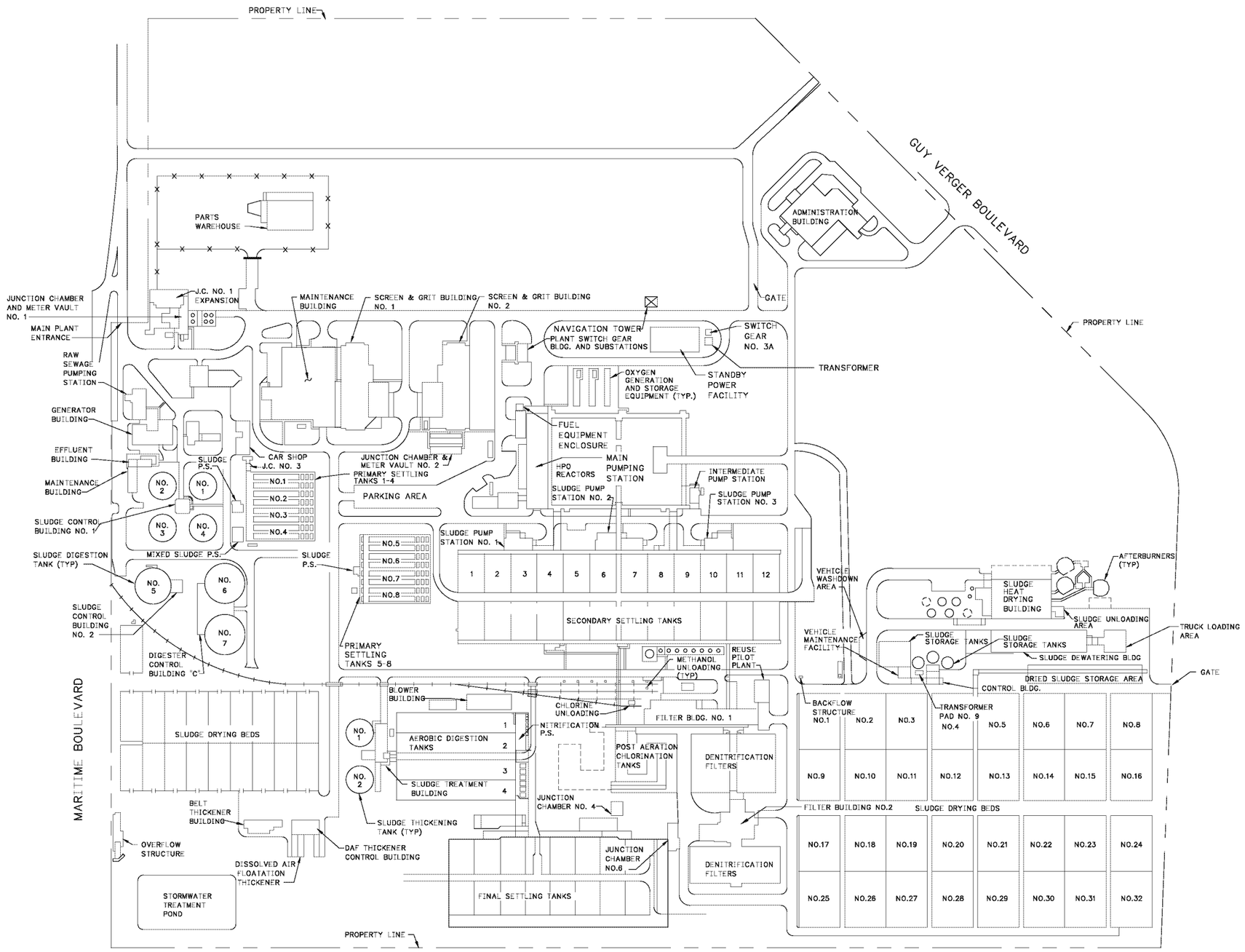
CITY OF TAMPA

HFCAWTP
PERMIT RENEWAL

HOWARD F CURREN AWTP
PROCESS FLOW DIAGRAM

MAY 2015



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CITY OF TAMPA

HFCAWTP
PERMIT RENEWAL

HOWARD F CURREN AWTP
SITE PLAN

MAY 2015

ED_002491_00000014-00058

REFERENCES:

Aerial Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/25/14.

Basemap Data Source(s):
http://www.swfwmd.state.fl.us/
http://www.dep.state.fl.us/

0 3,000 6,000

SCALE IN FEET

LEGEND

AWTP PROPERTY BOUNDARY

RECLAIMED WATER ZONE OF DISCHARGE

NOTE:

AWTP - ADVANCED WASTEWATER TREATMENT PLANT

CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA

LOCATION MAP

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FIGURE

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
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Imagine the result

Updated Capacity Analysis Report

Howard F. Curren Advanced Wastewater Treatment Plant

Located in Tampa, FL

Facility ID No.: FL0020940
Permit Expiration: November 23, 2015

May 2015

ARCADIS

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Capacity Analysis Report

Howard F. Curren Advanced Wastewater Treatment Plant

Permit Renewal

Prepared for:
City of Tampa

Prepared by:
ARCADIS U.S., Inc.
14025 Riveredge Drive
Suite 600
Tampa
Florida 33637
Tel 813 903 3100
Fax 813 903 9115

Our Ref.:
00043052.0000

Date:
May 2015

Tables

Figures

Appendices

Abbreviations

3-MADF	3-month average daily flow
AADF	annual average daily flow
BOD	biochemical oxygen demand
CAR	capacity analysis report
cBOD5	carbonaceous biochemical oxygen demand, five day
DAR	diffused aeration reactors
DMR	discharge monitoring reports
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FST	final settling tank
gpdpc	gallons per day per capita
HFCAWTP	Howard F. Curren Advanced Wastewater Treatment Plant
HPO	high purity oxygen
I/I	inflow and infiltration
MADF	monthly average daily flow
mg/L	milligrams per liter
MGD	million gallons per day
MPS	main pumping station
MSPS	mixed sludge pumping station
PST	primary settling tank
SST	sludge storage tank and secondary settling tank
TN	total nitrogen
TSS	total suspended solids
WAS	waste activated sludge

Certifications

Permittee Certification

As the responsible authority for the City of Tampa Howard F. Curren Advanced Wastewater Treatment Plant, the undersigned certifies that he is fully aware of and intends to comply with the recommendations and schedules included herein.

_____

Signature

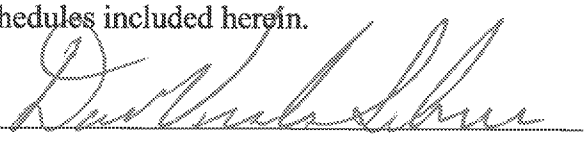
_____

Date

Eric A. Weiss, P.E.
City of Tampa Wastewater Director
306 East Jackson Street
Tampa, FL 33602
813-274-8333

Treatment Plant Operations Supervisor Certification

As the Operations Supervisor for the City of Tampa Howard F. Curren Wastewater Treatment Plant, the undersigned certifies that he has reviewed and is fully aware and intends to comply with the recommendations and schedules included herein.



Signature

5/20/15

Date

Dan VanderSchuur
Operations Supervisor
2700 Maritime Boulevard
Tampa, FL 33605
813-247-3451

Certifications

Permittee Certification

As the responsible authority for the City of Tampa Howard F. Curren Advanced Wastewater Treatment Plant, the undersigned certifies that he is fully aware of and intends to comply with the recommendations and schedules included herein.

Signature

5/6/15

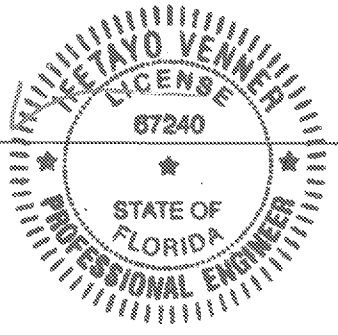
Date

Eric Weiss, P.E.
City of Tampa Wastewater Director
2545 Guy N. verger Boulevard
Tampa, FL 33605
813-274-8039

Certifications

Professional Engineer Certification

I certify that the information contained in this Updated Capacity Analysis Report for the City of Tampa Howard F. Curren Wastewater Treatment Plant is true and correct to the best of my knowledge and has been reviewed and discussed with the Permittee's Utilities Director and Operations Supervisor. This report was prepared in accordance with sound engineering principles using Florida Department of Environmental Protection's *Guidelines for Preparation of Capacity Analysis Reports* published in July 1992.



Signature

5/21/15

Date

Ifetayo Venner, P.E.
Florida Professional Engineer Registration No. 67240
ARCADIS
14025 Riveredge Drive, Suite 600
Tampa, FL 33637
(813) 353-5751

1. Introduction

The City of Tampa owns and operates the Howard F. Curren Advanced Wastewater Treatment Plant (HFCAWTP) located at 2700 Maritime Boulevard in Tampa, Florida. The HFCAWTP was constructed in the 1950s as a 36 million gallons per day (MGD), annual average daily flow (AADF) with primary treatment and anaerobic digestion. The plant was expanded to 60 MGD, AADF in the 1970s. This expansion included a conversion to advanced wastewater treatment with a capability of reducing biochemical oxygen demand (BOD), total suspended solids (TSS), and total nitrogen (TN). The plant was further expanded to the present capacity of an annual average daily flow of 96 MGD, AADF in the 1990s. The HFCAWTP operates under an existing Florida Department of Environmental Protection (FDEP) wastewater permit (No. FL0020940), which was issued on November 24, 2010 and expires on November 23, 2015. A copy of the current permit is provided as Appendix A.

This updated Capacity Analysis Report (CAR) was prepared in accordance with Rule 62-600.405(5)(a) Florida Administrative Code (FAC) and FDEP's Guidelines for Preparation of Capacity Analysis Reports. Rule 62-600.405, FAC requires Capacity Analysis Reports to assure timely planning, design and construction for proper treatment and reuse or disposal. CARs include an analysis of past flow data, estimation of future growth and flows, and an evaluation of the existing facility to handle the expected growth. This rule states that an updated CAR must be submitted with a domestic wastewater permit renewal application package.

The previous updated CAR for this facility was prepared by Greeley and Hanson and submitted to FDEP in April 2009. This report concluded that the HFCAWTP had sufficient capacity for the next 10 years and the 2018 projected influent AADF would be about 70% of the current design capacity, so an expansion would not be required.

1.1 Plant Description

The HFCAWTP serves the City of Tampa and portions of Hillsborough County outside the limits of the City. In addition, the City of Tampa serves the City of Temple Terrace as a bulk customer. The service area is shown in Figure 1-1.

The HFCAWTP is a two-stage, high rate (pure oxygen and fine bubble aeration) activated sludge biological nitrogen removal wastewater treatment plant. A process flow diagram of the plant is shown in Figure 1-2. A site plan is provided in Figure 1-3.

Insert Figure 1-1 Service Area Map

Insert Figure 1-2 Process Flow Diagram

Insert Figure 1-3 Site Plan

1.1.1 Wastewater Treatment

All wastewater from the collection system is pumped to the plant and is received at Junction Chamber No. 1, which is aerated to liberate hydrogen sulfide. From Junction Chamber No. 1, the raw wastewater flows to Screen and Grit Buildings No. 1 and 2 for preliminary treatment. Within these buildings, the wastewater passes through mechanical screens before proceeding to the grit removal tanks. The effluent from both of the Screen and Grit Buildings is combined and flows by gravity to the eight Primary Settling Tanks (PSTs). Primary effluent is pumped by the Main Pumping Station (MPS) to the High Purity Oxygen (HPO) System where secondary treatment for carbonaceous biochemical oxygen demand, five day (cBOD5) removal is provided by aeration in conjunction with gravity settling in 12 Secondary Settling Tanks (SSTs). Settled activated sludge is returned to the HPO Reactors to form the mixed liquor or is wasted. Carbonaceous effluent from the SSTs is pumped to the Diffused Aeration Reactors (DARs) by the Nitrification Pumping Station. The carbonaceous effluent is combined with the return sludge from the 8 Final Settling Tanks (FSTs) to form mixed liquor. Nitrification is provided in the DARs. The mixed liquor flows from the DARs to the FSTs, where solids are removed by gravity settling and returned to the head of the DARs or wasted.

During normal operation, methanol is added to the nitrified effluent before it enters 32 Denitrification Filters. It is here that facultative bacteria convert nitrate to nitrogen gas, which is released from the filter media during a short backwash referred to as a nitrogen release cycle. Reaeration of the denitrification filters effluent to a dissolved oxygen concentration of 5 milligrams per Liter (mg/L) is provided in the Post Aeration-Chlorination Tanks by diffused air. Chlorination is also provided in these tanks for disinfection to maintain a minimum residual of 1.0 mg/L or greater at the tank effluent weirs. Sulfur dioxide is added to declorinate the effluent to less than 0.01 mg/L.

Dechlorinated effluent flows to the Overflow Structure through Junction Chamber No. 4 by way of a 96-inch plant effluent conduit. The HFCAWTP has three surface water discharge locations into Hillsborough Bay. Flow from the Overflow Structure discharges into Hillsborough Bay through a 78-inch conduit. A 72-inch conduit and a 96-inch conduit are provided as secondary relief outfalls for the Overflow Structure. The first surface water discharge is Discharge Location D-001 which is permitted to discharge an AADF of 96 MGD. Discharge Location D-002 and D-003 are permitted for an intermittent discharge to the Ybor City Drain during high flow and/or high tide conditions.

1.1.2 Residuals Handling

Residuals are collected in each stage of treatment at the HFCAWTP. Screenings from the mechanical screens are removed and conveyed to dumpsters for temporary storage and then taken to a Refuse to Energy Facility. Grit slurry removed from the grit tanks is washed and dewatered prior to discharge to a dump truck. Grit is temporarily stored onsite and ultimately hauled to a landfill for disposal. Sludge and scum collected from the PSTs is pumped to the Mixed Sludge Pumping Station (MSPS). Within secondary treatment, solids removed from the mixed liquor by gravity settling in the SSTs are returned to the HPO Reactors continuously or wasted. Solids removed from the mixed liquor by gravity settling in the FSTs are returned to the DARs continuously or wasted to the HPO reactors, as required. Waste sludge from the HPO System is pumped to the two Gravity Thickening Tanks for thickening. Waste sludge from the DAR System

is wasted to the main pump station or is pumped to the Gravity Thickeners. Secondary scum is pumped to the PSTs. Thickened waste activated sludge (WAS) is pumped to the MSPS where it mixes with the primary sludge and scum. The MSPS sequentially pumps the mixed sludge to the Anaerobic Digesters. Class B digested sludge is pumped to the Sludge Storage Tanks (SSTs).

Sludge from SSTs is pumped either to dewatering in the Sludge Dewatering Building or to the Sludge Drying Beds. Sludge from the dewatering facility or from the sludge drying beds is disposed of as a Class B biosolds in accordance with 62-640, F.A.C. or dewatered sludge is conveyed to the Heat Drying Facility, where it is converted to Class A or AA fertilizer pellets.

1.1.3 Reclaimed Water Facilities

Reclaimed water is distributed with four service pumps from the reclaimed water pump station at the HFCAWTP. The HFCAWTP is currently permitted for the following reclaimed water facilities:

- 6 MGD for a slow-rate public access system consisting of the City of Tampa's reclaimed water service area.
- 2.3 MGD of reclaimed water used as cooling water and minor landscape irrigation at the City of Tampa Refuse to Energy Facility.
- 4.32 MGD of reclaimed water for a closed loop system used for heating purposes at the C.F. Industries Facility. This reclaimed water is returned to the HFCAWTP.

The City of Tampa reclaimed water service area is shown in Figure 1-4.

Insert Figure 1-4 City of Tampa Reclaimed Water Service Area

2. Existing Conditions

2.1 Introduction

This section provides a summary of the current plant capacity, flows, and treatment capability in order to provide a framework for the assessment of the ability of the facility to handle future conditions (increased flows and loads). Historical flow data from the past 10 years and historical operational data from the past five years was obtained from the City of Tampa's monthly Discharge Monitoring Reports (DMR) and is summarized and compared with the permitted capacity of the HFCAWTP.

The FDEP's Guidelines for Preparation of Capacity Analysis Reports states that the following items be included when discussing the existing facility conditions:

- Permitted Capacities
- Average Flows (Monthly, Three-Month, and Annual)
- Seasonal Variations
- Current Flow and Influent Loading

2.2 Permitted Capacities

The HFCAWTP has a Domestic Wastewater Facility Permit issued by FDEP which allows the City of Tampa to treat 96.0 MGD AADF. The plant has six permitted discharge locations which are summarized below in Table 2-1.

Table 2-1

HFCAWTP Permitted Effluent Disposal Sites

Serial Number[1]	Location	Permitted Capacity
D-001	Hillsborough Bay (Class III marine waters, WBID # 1558E), latitude 27 54' 41" N, longitude 82 26' 27" W	96.0 MGD AADF
D-002	Ybor City Drain and hence to Hillsborough Bay (Class III marine waters, WBID # 1584A), latitude 27 55' 12" N, longitude 82 26' 31" W	Flows in excess of 100 MGD coupled with extreme high tide conditions
D-003	Ybor City Drain and hence to Hillsborough Bay (Class III marine waters, WBID # 1584A), latitude 27 55' 12" N, longitude 82 26' 31" W	Flows in excess of 100 MGD coupled with extreme high tide conditions
R-001	City of Tampa service area, which includes the Tampa International Airport and NexLube	6.0 MGD AADF
R-002	Part VII industrial reuse system providing Part III quality reclaimed water for use as cooling water and minor irrigation at the City of Tampa Refuse to Energy Facility (McKay Bay Facility), located approximately at latitude 27o 56' 56" N, longitude 82o 25' 19" W.	2.3 MGD AADF
R-003	Industrial reuse system providing secondary treatment reclaimed water to a closed-loop system for heating purposes at C.F. Industries, located approximately at latitude 27o 55' 02" N, longitude 82o 26' 14" W.	4.32 MGD AADF

1 Identified in existing Permit

2.3 Historical Flows

2.3.1 Historical Averages

The FDEP Guidelines for Preparation of Capacity Analysis Reports requires the tabulation of the monthly average daily flow (MADF), three-month average daily flow (3-MADF), and AADF, as well as, summary of the annual maximum 3-MADF and the ratio of maximum 3-MADF to AADF for a period of 10 years for a facility in operation for more than 10 years. These tabulations are provided in Tables 2-2 and 2-3.

Table 2-2 summarizes the monthly and annual average daily influent flow data for November 2004 through October 2014.

Table 2-2
2004 -2014 Average Daily Influent Flow by Month[1]

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
January		53.53	52.6	55.56	53.95	50.79	52.56	52.82	50.27	54.11	54.45
February		53.38	61.22	54.91	54.37	51.48	54.89	53.50	50.50	52.97	56.74
March		57.39	54.95	54.38	58.01	48.13	57.16	55.06	50.57	52.38	58.77
April		55.06	53.54	54.13	56.78	48.06	58.89	59.86	50.61	53.22	57.69
May		54.23	52.66	52.82	50.98	53.18	54.36	52.27	50.10	55.02	59.53
June		61.35	56.53	55.49	55.45	55.19	54.02	53.21	64.16	63.08	56.78
July		**67.25**	60.49	58.99	66.4	**65.99**	62.79	58.33	67.86	**79.23**	60.96
August		62.97	54.41	**66.74**	**69.25**	59.30	**65.66**	65.43	76.87	77.93	61.07
September		57.3	**74.77**	62.65	58.03	60.40	62.01	**72.33**	**81.81**	70.33	**66.68**
October		56.58	58.67	58.95	56.86	53.96	52.96	62.83	65.11	62.22	65.39
November	55.13	54.45	55.71	54.52	52.11	51.09	51.57	53.78	54.87	55.51	
December	52.82	52.91	54.74	53.5	50.51	52.86	49.38	50.63	54.93	53.14	
Annual Average Daily Flow (AA)[2]		57.25	57.27	57.09	57.34	54.09	56.60	57.22	59.36	60.86	58.89
Maximum Monthly Daily Flow (MM)		67.25	74.77	66.74	69.25	65.99	65.66	72.33	81.81	79.23	66.68
Ratio of MM/AA		1.17	1.31	1.17	1.21	1.22	1.16	1.26	1.38	1.30	1.13

[1]Maximum month values are shown in bold
[2]Annual period is from November through October

The average daily flow over the last 10 years is 58 MGD. The highest MADF in the period evaluated was 82 MGD and occurred in the September 2012. Both the average daily flow and the highest MADF are below the permitted annual average capacity of 96 MGD.

Table 2-3 shows a summary of the 3-MADF. The maximum 3-MADF for the 10 year period was 76 MGD, about 79 percent of the permitted annual average design capacity of 96 MGD.

Table 2-3
Three-Month Average Daily Influent Flow[1, 2, 3]

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
January		53.8	53.3	55.3	54	51.1	52.2	51.3	51.6	54.6	54.4
February		53.2	55.6	55.1	53.9	50.9	53.4	51.9	50.5	54.0	54.8
March		54.8	56.3	55	55.5	50.1	54.9	53.8	50.4	53.2	56.7
April		55.3	56.6	54.5	56.4	49.2	57.0	56.1	50.6	52.9	57.7
May		55.6	53.7	53.8	55.3	49.8	56.8	55.7	50.4	53.5	58.7
June		56.9	54.2	54.1	54.4	52.1	55.8	55.1	55.0	57.1	58.0
July		60.9	56.6	55.8	57.6	58.1	57.1	54.6	60.7	65.8	59.1
August		63.9	60.8	60.4	63.7	60.2	60.8	59.0	69.6	73.4	59.6
September		62.5	**66.9**	**62.8**	**64.6**	**61.9**	**63.5**	65.4	**75.5**	**75.8**	62.9
October		59	66.3	62.8	61.4	57.9	60.2	**66.9**	74.6	70.2	**64.4**
November	**69.7**	56.1	63.1	58.7	55.6	55.2	55.5	63.0	67.3	62.7	
December	57.6	54.6	56.4	55.7	53.1	52.6	51.3	55.7	58.3	57.0	
Maximum Three-Month Average Daily Flow		69.70	66.90	63.10	64.60	61.90	63.49	66.86	75.51	75.83	64.38

[1]Maximum three-month values are shown in bold

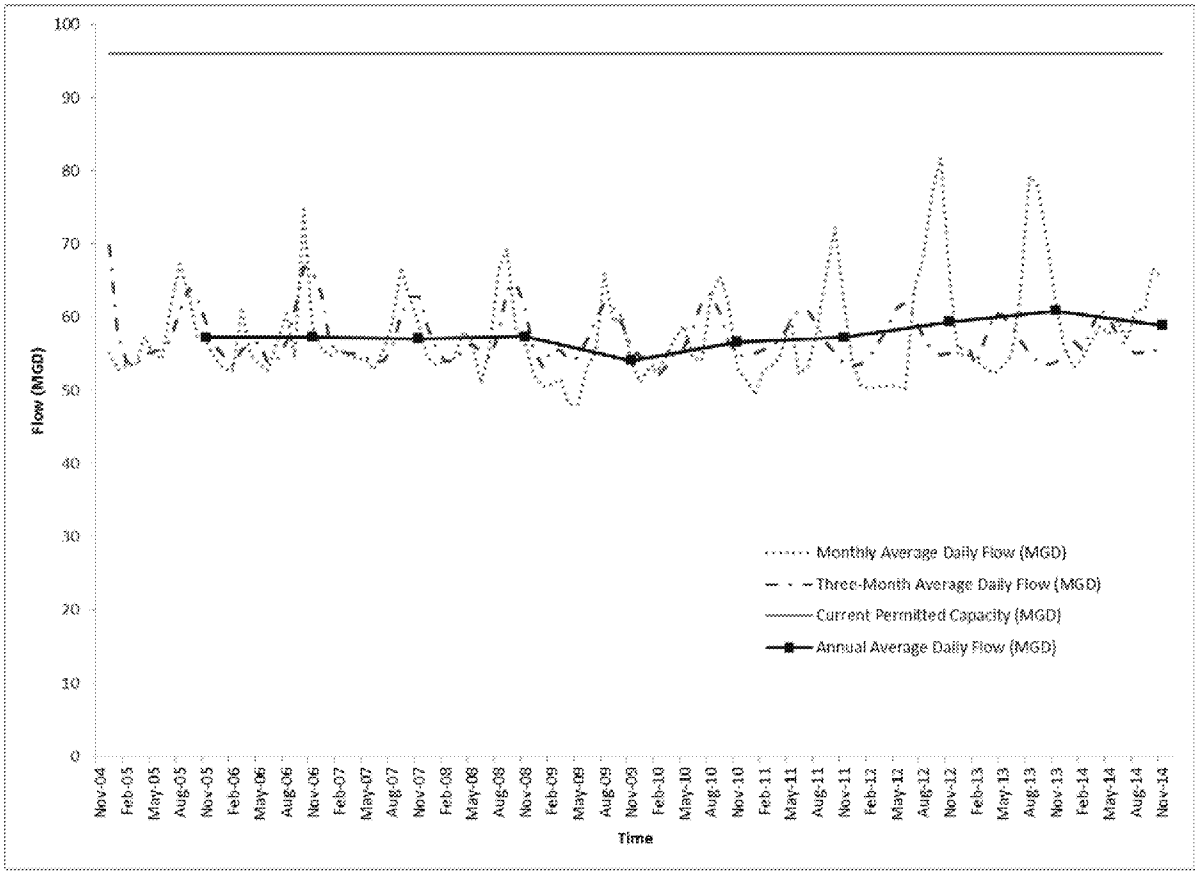
[2]Flow in 2007 and 2008 include approximately 1.5 MGD of wastewater temporarily being received from Hillsborough County

[3]Annual period is from November through October

Figure 2-1 provides a graph of the data shown in Tables 2-2 and 2-3.

Flow patterns do not indicate any significant issues with flow meter accuracy during the 10 year period. The magnetic flow meters used to measure flow are regularly calibrated quarterly (Appendix B) and were last calibrated by HFCAWTP staff on February 24, 2015.

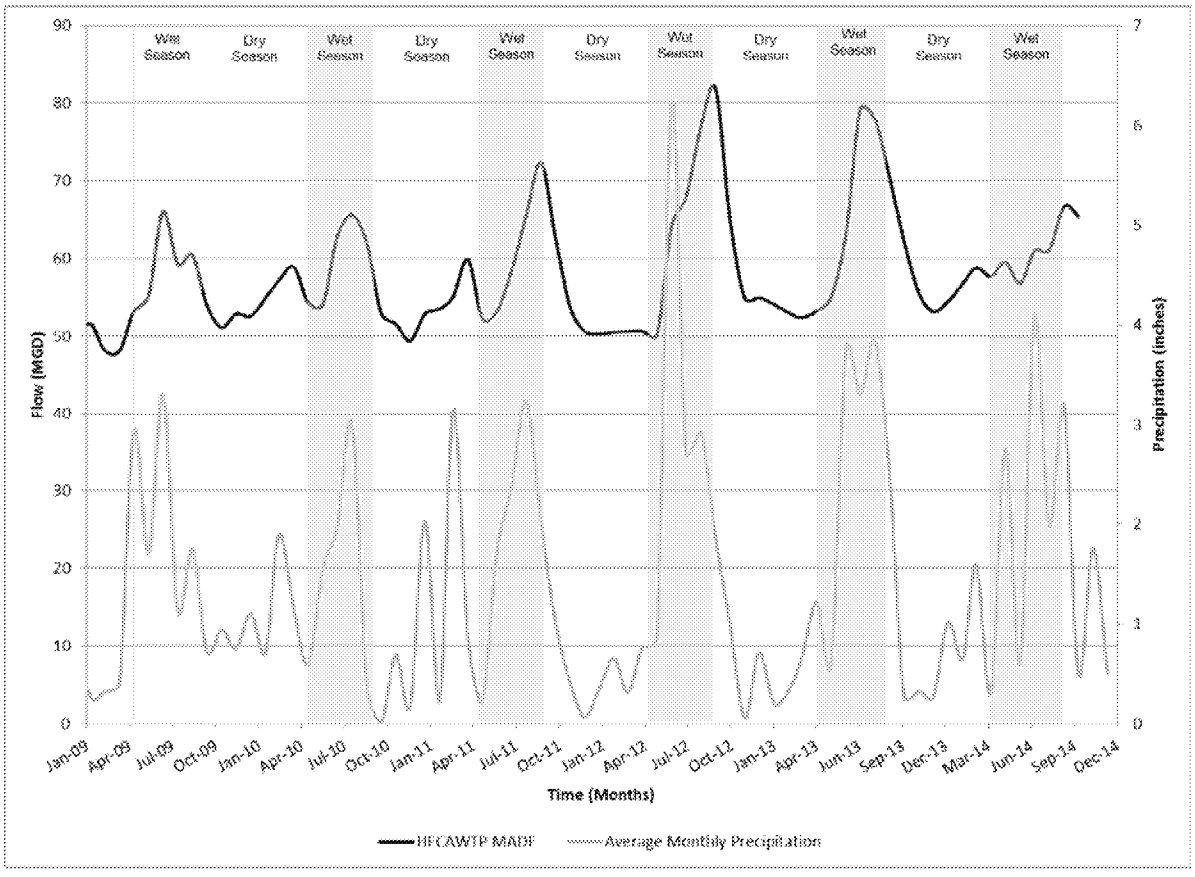
Figure 2-1
Historical Flows for the HFCAWTP (2004-2014)*



2.3.2 Seasonal Variations in Flow

Unlike many other states, Florida is considered to have two seasons: dry and wet. Typically, the wet season is considered to be May through September; while October through April is regarded as the dry season. For the HFCAWTP, this trend is confirmed as shown by the average monthly precipitation data graphed in Figure 2-2.

Figure 2-2
Historical Precipitation and HFCAWTP Flow



**Source of precipitation data: National Oceanic and Atmospheric Administration National Climatic Data Center*

These seasonal variations in rainfall affect the inflow to the treatment plant; increased rain results in increased flow that enters the collection system. Systems react to seasonal variations to varying degrees based upon many factors; one of which is the age of the system. Typically, newer systems have less inflow and infiltration (I/I), while older systems have been known to have higher I/I due to cracks and gaps which are formed as the collection system ages. For the City of Tampa collection system, the flow to the treatment plant increases modestly during most wet seasons; as can be seen in Figure 2-2. This amount of I/I is typical for a system of the City's age. The City has an active I/I reduction program to rehabilitate its infrastructure and reduce I/I.

To further evaluate the seasonal flow variation for the HFCAWTP, the historical maximum annual 3-MADF was compared with the AADF as shown in Table 2-4.

Table 2-4
Ratio of Maximum Three Month Average Daily Flow to Annual Average Daily Flow

Year[1]	Month of Maximum Three-Month Average Daily Flow (MGD)	Maximum Three-Month Average Daily Flow (MGD)	Annual Average Daily Flow (MGD)	Ratio
2004 -2005	November 2004	69.70	57.2	1.22
2005 - 2006	September 2006	66.90	58.4	1.15
2006 - 2007	September 2007	63.10	56.9	1.11
2007 - 2008	September 2008	64.60	56.9	1.14
2008 - 2009	September 2009	61.9	54.2	1.14
2009 - 2010	September 2010	63.5	56.4	1.13
2010 - 2011	October 2011	66.9	53.5	1.25
2011 - 2012	September 2012	75.5	55.4	1.36
2012 - 2013	September 2013	75.8	57.3	1.32
2013 - 2014	October 2014	64.38	58.9	1.09

[1]Annual period is from November through October

Over the period evaluated, the maximum three-month average daily flow generally occurs in September or October, which is a typical seasonal variation for the area. The average ratio of the maximum three-month average daily flow to annual average daily flow was 1.19 from November 2004 through October 2014.

2.4 Influent Loadings

2.4.1 Plant Design Capacity

The design of the HFCAWTP was based on the removal of $cBOD_5$, TSS, and TN. Table 2-5 summarizes the influent and effluent design basis of each of the parameters on an annual average basis.

Table 2-5
Influent and Effluent Design Parameters

Parameter	Influent Concentration (mg/L)	Influent Load (ppd)	Effluent Concentration (mg/L)	Effluent Loading (ppd†)
$cBOD_5$	264	211,369	5	4,003
TSS	203	162,530	5	4,003
TN	30	24,019	3	2,402

2.4.2 Current Loadings

To compare the conditions currently experienced at the HFCAWTP to those of the permitted design parameters, the existing plant influent and effluent loadings were calculated for November 2013 through October 2014. Table 2-6 summarizes the influent and effluent loadings from November 2013 through October 2014 in accordance with FDEP guidelines. Table 2-6 shows the annual average, maximum 3-MADF, and maximum month plant loadings for $cBOD_5$, TSS and TN. The current influent loads for all parameters are less than the design values, which is to be expected given that influent flows to the plant are below the permitted flow and influent concentrations are generally below design concentrations. Annual average plant influent loadings in the 12-month period were 40% of design for $cBOD_5$, 45% of design for TSS, and 44% percent of than design for TN. Additionally the influent maximum month loads are also well below design loads.

Table 2-6
Current Influent and Effluent Loading Comparison

Parameter	Influent $cBOD_5$ (ppd)	Effluent $cBOD_5$ (ppd)	Influent TSS (ppd)	Effluent TSS (ppd)	Influent TN (ppd)	Effluent TN (ppd)
Annual Average	85,373	617	72,643	334	16,870	1,048
3-Month Maximum	97,388	674	81,744	438	19,033	1,215
Maximum Month	101,282	735	88,971	501	19,214	1,151
(Month Occurred)	(May 2014)	(March 2014)	(July 2014)	(September 2014)	(March 2014)	(October 2014)

3. Future Conditions

3.1 Introduction

This section provides an estimate of future conditions that the HFCAWTP may experience. Future flow projections are determined by applying the historical average per capita flow to population projections. Flow projections presented in this section project from 2010 to 2030.

The FDEP's *Guidelines for Preparation of Capacity Analysis Reports* states that the following items should be included when discussing future facility conditions:

- Population projections
- Service area
- Flow projections

3.2 Population Projections

Rule 62-600-405 FAC requires that the permitted capacity of a plant will not be equaled or exceeded within the next ten years.

Wastewater service area population equivalent data used in the estimation of historical population values and future population growth trends was obtained from the City of Tampa Wastewater Planning Department (Appendix C). Population equivalent data for the wastewater service area includes the residential, commercial and industrial wastewater demands in the City of Tampa, as well as Hillsborough County and Temple Terrace, service area. The population and per capita flow estimates for the past five years are provided in Table 3-1. The average per capita flow for this period was 108 gallons per day per capita (gpdpc). The service area is shown in Figure 1-1. The land use map is shown in Figure 3-1.

Table 3-1
Service Area Population Equivalent Estimates

Year*	Service Area Population	AADF (MGD)	Per Capita Flow (gpdpc)
2009	522,269	54	104
2010	527,100	56	107
2011	533,944	58	108
2012	540,788	60	111
2013	547,633	61	111

*Annual period is from January through December

The wastewater service area population equivalent data includes population projections through the year 2025 (Appendix C). The wastewater service area population projections are also shown in Table 3-2.

Insert Figure 3-1 Land Use Map

Table 3-2
Service Area Population Equivalent Projections for 2015 – 2025

Year	Service Area Population
2015	561,321
2016	568,759
2017	576,196
2018	583,634
2019	591,071
2020	598,509
2021	605,946
2022	613,384
2023	620,821
2024	628,258
2025	635,696

3.3 Flow Projections

Future flow projections for the HFCAWTP were calculated from historical per capita flow data shown in Table 3-1. The future flow was calculated by determining the average per capita flow rate based on the City's recent historical flow per capita (Table 3-1, average is 108 gpdpc) and applying this rate to the projected service area population (Table 3-2). To estimate the maximum 3-MADF, the historical AADF to maximum 3-MADF average ratio for the last 10 years (Table 2.4, average ratio is 1.2) was applied to the projected AADF. The resulting flow projections are listed in Table 3-3 and shown graphically in Figure 3-1. This method assumes that the historical wastewater production rate by residential, commercial, and industrial users in the City of Tampa service area will remain constant for the future projections.

Table 3-3
HFCAWTP Flow Projections

Year	Service Area Population	AADF (MGD)	Maximum 3-MADF (MGD)	Permitted Plant Capacity (MGD)
2005	493,520	57.2	68.7	96
2006	500,707	57.3	68.7	96
2007	507,894	57.1	68.5	96
2008	515,082	57.3	68.8	96
2009	522,269	54.1	64.9	96
2010	527,100	56.6	67.9	96
2011	533,944	57.2	68.7	96
2012	540,788	59.4	71.2	96
2013	547,633	60.9	73.0	96
2014	554,477	58.9	70.7	96
2015	561,321	60.6	72.7	96
2016	568,759	61.4	73.7	96
2017	576,196	62.2	74.7	96
2018	583,634	63.0	75.6	96
2019	591,071	63.8	76.6	96
2020	598,509	64.6	77.6	96
2021	605,946	65.4	78.5	96
2022	613,384	66.2	79.5	96
2023	620,821	67.0	80.5	96
2024	628,258	67.9	81.4	96
2025	635,696	68.7	82.4	96

Figure 3-2
HFCAWTP Flow Projections

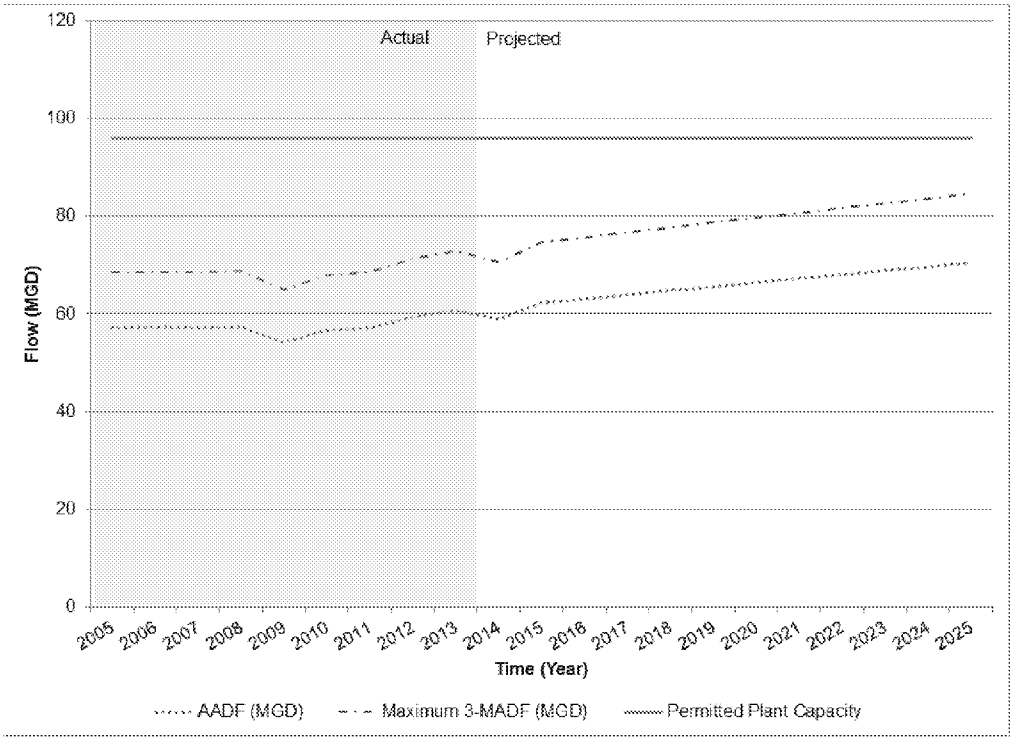


Figure 3-1 shows that over the next ten years the average annual flow is project to increase by about 20% from 58.9 MGD to 70.6 MGD which is about 74% of the permitted capacity of the facility. The projected maximum 3-MADF will increase by approximately 16.5% from 70.7 MGD to 84.7 MGD which is approximately 89% of the permitted capacity of the facility. The HFCAWTP is not expected to exceed its design capacity in the next ten years.

4. Summary and Conclusions

4.1 Introduction

This section compares the future conditions that were developed in Section 3 with the permitted capacity of the existing facility.

The FDEP's *Guidelines for Preparation of Capacity Analysis Reports* states that the permitted capacity should be compared with the maximum 3-MADF projected flows. If the projected flows exceed the permitted capacity, the approximate exceedance date must be stated and recommendations for specific facility expansion requirements should be included in the report accompanied by an expansion schedule.

4.2 Time Required to Reach Plant Capacity

In 2025, the projected annual average flow for the HFCAWTP is 70.6 MGD and the projected maximum 3-MADF will be approximately 85 MGD. These projected flows are 74 percent and 89 percent of the currently permitted capacity of the facility, respectively. Therefore, based on these projections, the facility is not expected to exceed the permitted flow capacity within the next 10 years.

4.3 Recommendations for Expansion

Current flow projections to 2025 show that there is expected to be sufficient available flow capacity (based on both projected AADF and maximum 3-MADF) at the HFCAWTP to meet demands for the next ten years. Therefore an expansion of the HFCAWTP is not required.

4.4 Conclusions

The HFCAWTP has sufficient capacity for the next ten years; the 2025 projected influent annual average daily flow is 70.6 MGD, about 74 percent of the design capacity of 96 MGD. The current average influent BOD, TSS, and TN loadings are within the design ranges established for the facility. Assuming that future concentrations of these parameters remain similar to current, at the permitted flow the loading to the plant is expected to be 49%, 55%, and 85% of design loadings for $cBOD_5$, TSS and TN respectively. Additionally, the HFCAWTP currently exhibits no sign of hydraulic or organic overloading. Therefore, is anticipated that the HFCAWTP will to continue to operate properly throughout the duration of the renewed operating permit.

ARCADIS

Appendix A

Current FDEP Operating Permit

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RICK SCOTT
GOVERNOR
HERSCHEL T. VINYARD JR.
SECRETARY

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:
City of Tampa Wastewater Department

PERMIT NUMBER: FL0020940
PA FILE NUMBER: FL0020940-015-DW1P/NR
ISSUANCE DATE: November 24, 2010
PA FILE NUMBER: FL0020940-017-DW1P/RM
REVISION DATE: April 2, 2013
EXPIRATION DATE: November 23, 2015

RESPONSIBLE OFFICIAL:
Anthony Kasper, P.E., Wastewater Department Director
306 East Jackson Street, 6E
Tampa, Florida 33602-5208
anthony.kasper@tampagov.net
(813) 274-8108

FACILITY:

City of Tampa-Howard F. Curren AWTP
2700 Maritime Boulevard
Tampa, FL 33605-6744
Hillsborough County
(813) 247-3451
Water Body Identification (WBID) No. 1558E and 1584A
Latitude: 27°55' 33.02" N, Longitude: 82°26' 2.95" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System. The above-named permittee is hereby authorized to operate the facilities shown on the application and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

WASTEWATER TREATMENT:

An existing 96.0 mgd annual average daily flow (AADF) permitted capacity Type I two-stage, high rate (pure oxygen and fine bubble aeration) activated sludge biological nitrification/denitrification domestic wastewater treatment plant. The facility has the capability to operate in a number of modes as described in the submitted basis of design. The facility includes the following units: Pre-aeration with odor control consisting of three tanks of 0.670 MG total volume, mechanical screening and grit removal consisting of eight tanks of 0.727 MG total volume, eight primary sedimentation tanks of 50,464 square feet total surface area and 4.94 MG total volume, six pure oxygen reactors of 7.62 MG total volume, twelve carbonaceous sedimentation tanks of 167,960 square feet total surface area and 18.08 MG total volume, four nitrification reactors of 8.48 MG total volume, eight final sedimentation tanks of 134,368 square feet total surface area and 12.00 MG total volume, thirty-two coarse sand, denitrification filters of 33,600 square feet total surface area, three chlorine contact chambers of 2.38 MG total volume with post aeration, and dechlorination facilities, two gravity sludge thickeners of 0.350 MG total volume, seven anaerobic digesters of 9.87 MG total volume, sludge storage tanks, eight belt filter presses, sludge heat drying

facility and fifty-seven sludge drying beds and other associated facilities. This plant is operated to discharge AWT, high-level disinfected and dechlorinated effluent to Hillsborough Bay. Residuals generated by this facility are heat dried to meet Class AA standards for distribution and marketing and are dewatered for land application as a Class B residual.

DISPOSAL:

Surface Water Discharge D-001: An existing 96.0 MGD annual average daily flow permitted discharge to Hillsborough Bay (Class III marine waters, WBID # 1558E) which is approximately 141 feet in length and discharges at a depth of approximately 29.1 feet. The point of discharge is located approximately at latitude 27°54' 41" N, longitude 82°26' 27" W.

Surface Water Discharge D-002: An existing intermittent discharge to Ybor City Drain and hence to Hillsborough Bay (Class III marine waters, WBID # 1584A) which is approximately 0 feet in length and discharges at a depth of approximately 4.5 feet. Outfall D-002 shall only discharge as result of flows to the treatment plant in excess of approximately 100 MGD coupled with extreme high tide conditions. The point of discharge is located approximately at latitude 27°55' 12" N, longitude 82°26' 31" W.

Surface Water Discharge D-003: An existing intermittent discharge to Ybor City Drain and hence to Hillsborough Bay (Class III marine waters, WBID # 1584A) which is approximately 0 feet in length and discharges at a depth of approximately 6.8 feet. Outfall D-003 shall only discharge as result of flows to the treatment plant in excess of approximately 100 MGD coupled with extreme high tide conditions. The point of discharge is located approximately at latitude 27°55' 12" N, longitude 82°26' 31" W.

Pursuant to Rule 62-4.244, F.A.C., the permittee is hereby granted a mixing zone for Dichlorobromomethane and Dibromochloromethane for the effluent discharge from Outfalls D-001, D-002 and D-003. The permittee's discharge shall not cause a violation of the Chapter 62-302, F.A.C., Class III Water Quality Standards outside the boundaries of the mixing zone described below.

The mixing zone for Dichlorobromomethane is a circular area of 1.0 meter radius, with a total surface area of 3.14 square meters, centered over the outfall. The mixing zone for Dibromochloromethane is a circular area of 1.17 meters radius, with a total surface area of 4.3 square meters, centered over the outfall. These mixing zones include the entire water column from the surface to the bottom and otherwise complies with the physical requirements of Rule 62-4.244, F.A.C. Parameter limits at the outfall are as shown in permit conditions Section I.

REUSE:

Land Application R-001: An existing 2.3 MGD annual average daily flow permitted capacity slow-rate public access reuse system (R-001 - City of Tampa Public Access Reuse System) consisting of the City of Tampa service area as outlined on the Potential Major Users Map generated by PBS&J, Inc. The system will be developed as a multi-phase program. The groundwater monitoring plan will need to grow with the reuse system growth.

Land Application R-002: An existing 2.3 MGD annual average daily flow permitted capacity Part VII industrial reuse system (R-002) providing Part III quality reclaimed water for use as cooling water and minor irrigation at the City of Tampa Refuse to Energy Facility (McKay Bay Facility). R-002 is located approximately at latitude 27° 56' 56" N, longitude 82° 25' 19" W.

Land Application R-003: An existing 4.32 MGD annual average daily flow permitted capacity industrial reuse system (R-003) providing secondary treatment reclaimed water to a closed-loop system for heating purposes at C.F. Industries. R-003 is located approximately at latitude 27° 55' 02" N, longitude 82° 26' 14" W.

Modification: Increase capacity of reuse system R-001 to 6.0 MGD annual average daily flow to accommodate increased demands from existing users and the addition of two new major users to R-001, the Tampa International Airport with a demand of 0.23 MGD and NexLube with a demand of 0.22 MGD of reclaimed water.

After Modification:

Land Application R-001: A 6.0 MGD annual average daily flow permitted capacity slow-rate public access system (R-001 - City of Tampa Public Access Reuse System) consisting of the City of Tampa service area as outlined on the map titled Section C-VIII Proposed City of Tampa Reclaimed Water Service Area.

IN ACCORDANCE WITH: The limitations, monitoring requirements, and other conditions set forth in the cover sheets and Parts I through IX, on Pages 1 through 37, of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Surface Water Discharges

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent from Outfall D-001, D-002 and D-003 to Hillsborough Bay (Class III Waters). Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Condition I.C.8:

			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flow, To D-001	MGD	Maximum	96.0	Report	-	-	Continuous	Calculation	FLW-05	
Flow, To D-002	MGD	Maximum	Report	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-06	See Cond.I.A.4.
Flow, To D-003	MGD	Maximum	Report	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-07	See Cond.I.A.4.
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	5.0	6.25	7.5	10.0	7 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	5.0	6.25	7.5	10.0	7 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	-	-	-	5.0	7 Days/Week	Grab	EFB-01	
Nitrogen, Total (as N)	MG/L	Maximum	3.0	3.75	4.5	6.0	7 Days/Week	24-hour FPC	EFA-01	
Phosphorus, Total (as P)	MG/L	Maximum	Report	Report		Report	Weekly	24-hour FPC	EFA-01	
pH	SU	Range	-	-	-	6.5 to 8.5	Continuous	Meter	EFD-01	See Cond.I.A.3
Coliform, Fecal, % less than detection	PERCENT	Minimum	-	75	-	-	Monthly	Calculation	EFA-01	See Cond. I.A.5.
Coliform, Fecal	#/100ML	Maximum	-	-	-	25	7 Days/Week	Grab	EFA-01	See Cond. I.A.5.
Total Residual Chlorine (For Disinfection)	MG/L	Minimum	-	-	-	1.0	Continuous	Meter	EFA-01	See Cond.I.A.3 & 6.
Total Residual Chlorine (For Dechlorination)	MG/L	Maximum	-	-	-	0.01	7 Days/Week	Grab	EFD-01	

			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Oxygen, Dissolved (DO)	MG/L	Minimum	-	-	-	5.0	7 Days/Week	Grab	EFD-01	
Enterococci	#/100ML	Maximum	-	35 (Geo. Mean)	-	276	5/Month	Grab	EFA-01	See Cond.I.A.7.
Nickel, Total Recoverable	UG/L	Maximum	-	-	-	8.3	Quarterly	24-hour FPC	EFD-01	
Copper, Total Recoverable	UG/L	Maximum	-	-	-	3.7	Quarterly	24-hour FPC	EFD-01	
Dichlorobromomethane	UG/L	Maximum	33.0	Report	-	-	Monthly	Grab	EFD-01	
Dibromochloromethane	UG/L	Maximum	39.0	Report	-	-	Monthly	Grab	EFD-01	
Nitrogen, Total (as N)	Tons/Year	Maximum	246.8 (Ann. Total)	Report (Mo Total)	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.8.
Nitrogen, Total (as N)	Tons/Year	Maximum	225.8 (5Yr Avg.)	-	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.8.
Whole Effluent Toxicity (Chronic)	Percent	Minimum	-	-	-	100	Every Three Months	24-hour FPC	EFD-01	See Cond.I.A.10.

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-05	Flow from D-001 to Hillsborough Bay (FLW-05 = FLW-04 – FLW-07 - FLW-06 – FLW-02 – FLW-01)
FLW-01	Flow to City of Tampa Public Access Reuse System - R-001
FLW-02	Flow to City of Tampa Refuse to Energy Facility (McKay Bay Facility) R-002
FLW-04	Total plant flow (∑ MRC1, MRC2 & MRC4)
FLW-06	Flow from D-002 to Hillsborough Bay (metered)
FLW-07	Flow from D-003 to Hillsborough Bay (metered)
EFA-01	After disinfection and prior to discharge to R-001, R-002, and R-003.
EFB-01	Turbidity and TSS monitoring point after filtration and prior to disinfection.
EFD-01	After dechlorination and prior to discharge to Hillsborough Bay.

3. Hourly measurement of pH and total residual chlorine for disinfection during the period of required operator attendance may be substituted for continuous measurement. *[Chapter 62-601, Figure 2]*

4. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-601.200(17) and .500(6)]*

5. Over a 30-day period, at least 75 percent of the fecal coliform values shall be below the detection limits. No sample shall exceed 25 fecal coliforms per 100 mL. No sample shall exceed 5.0 mg/L of total suspended solids (TSS) at a point before the application of the disinfectant. Note: To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(5)(f)]*

6. A minimum of 1.0 mg/L total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. *[62-600.440(5)(b) and (6)(b)]*

7. Enterococci, a maximum monthly geometric mean of 35 counts/100mL based on at least 5 samples taken on nonconsecutive days over a 30-day period. Calculated using the following: single sample maximum = geometric mean * 10^(confidence level factor * log standard deviation), where the confidence level factor is: 75%: 0.68; 82%: 0.94; 90%: 1.28; 95%: 1.65. The log standard deviation from EPA's epidemiological studies is 0.7. *[40 CFR Section 131.41]*

8. In accordance with the load allocations for the Tampa Bay Reasonable Assurance, the Total Maximum Daily Load for Total Nitrogen shall be calculated from the monthly average Total Nitrogen concentration. The Total Nitrogen loading shall be calculated as a twelve-month rolling total and shall not exceed 246.8 tons/year and the five year average of the yearly totals shall not exceed 225.8 tons/year. Pursuant to Rule 62-620.325, F.A.C., the Department may revise this permit to incorporate the final findings.

   The Rolling Annual Total value is the sum of the monthly totals beginning on first day of the second month following permit issuance. During the first 60 months following permit issuance, the 5-year average of the annual totals is the sum of the monthly totals divided by 5. In the 61st month and beyond, the 5-year average of the annual totals shall become a rolling 5-year average of the annual totals calculated from the monthly totals.

Monthly Total (Mt)
$Mt = \frac{\text{(Monthly Average Total Nitrogen Concentration, mg/l)(Total Monthly Flow, MG)(8.3454)}}{\text{2000 lbs}}$
Mt = Tons/Month

Mt_1 = Monthly Total for the 1st Month
Mt_n = Monthly Total for the n^{th} Month

Annual Total (At)	
Annual Total at the end of the 2nd Month:	$At_2 = Mt_1 + Mt_2$ (1st month total + 2nd month total)
Annual Total at the end of the 12th Month:	$At_{12} = Mt_1 + Mt_2 \ldots Mt_{12}$
Annual Total at the end of the 13th Month:	$At_{13} = Mt_2 + Mt_3 \ldots Mt_{13}$ (Now a Rolling Total)
	(Every Month Thereafter–a Rolling Total)
Annual Total at the end of the n^{th} Month:	$At_n = Mt_{n-11} + Mt_{n-10} \ldots Mt_n$

5 Year Average of the Yearly Totals (5yr)	
$5yr_n = (Mt_1 + Mt_2 \ldots Mt_n) / 5$	(Prior to the 60th Month)
$5yr_{60} = (Mt_1 + Mt_2 \ldots Mt_{60}) / 5$	(After the 60th Month)
$5yr_{61} = (Mt_2 + Mt_3 \ldots Mt_{61}) / 5$	(After the 61st Month – Now a Rolling Average)
$5yr_n = (Mt_{n-59} + Mt_{n-58} \ldots Mt_n) / 5$	(Every Month Thereafter–a Rolling Average)

9. To support permit renewal, effluent testing information must be collected with a minimum of three samples taken within four and one half years prior to the expiration date of this permit. Values must be representative of the seasonal variation in the discharge from each outfall or represent best engineering estimates for new treatment and disposal systems in accordance with the instructions provided with DEP Form 62-620.910(2). The results must be included in DEP Form 62-620.910(2) (Form 2A application) section 3.A.12, 13, and 14, as appropriate. *[62-620.910(2)]*

10. Chronic Whole Effluent Toxicity Testing

The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-001.

a. Effluent Limitation
   (1) Whole effluent chronic toxicity shall not exceed a 25 percent inhibition concentration (IC25) of less than 100% effluent in any test and Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.
   (2) In the chronic toxicity test, the effluent cannot be acutely toxic, in accordance with Rules 62-4.241(1)(a), 62-302.200(1) and 62-302.500(1)(a)(4) F.A.C.

b. Monitoring Frequency
   (1) The "routine" toxicity tests specified shall be conducted *once every three months.*

c. Sampling Requirements
   (1) For each routine test or additional follow-up test conducted, a total of three *flow proportional 24-hour composite* samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8, or the most current edition.
   (2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
   (3) Samples for routine and additional follow-up tests shall not be collected on the same day.
   (4) If the duration of the discharge is less than 24-hours, the duration of discharge shall be documented on the chain of custody. Each sample shall be analyzed for total residual chlorine and pH at the time of sample collection. Should the discharge last less than 24 hours, the bioassay shall be run on the volume collected, however, three samples must be collected.

d. Test Requirements
   (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%, 50%, 25%, 12.5%**, and **6.25%** final effluent.
   (2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.
   (3) All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th ed., EPA-821-R-02-013 or the most current edition. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use.
   (4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7 or the most current edition.

e. Quality Assurance Requirements
   (1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
   (2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or does not meet "test acceptability criteria", the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**) or the most current edition. The repeat test shall begin within 21 days after the last day of the invalid test.
   (3) If **100%** mortality occurs in all effluent concentrations prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) shall be terminated with the conclusion that the test fails and constitutes non-compliance.
   (4) Additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6. or the most current edition, and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements
   (1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
      (a) Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.
   (2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review or the most current edition, and mailed to the Department at the address below within 30 days after the last day of the test.
   (3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10 or the most current edition, and mailed within 30 days after the last day of the second valid additional follow-up test.
   (4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
   (5) The same bioassay data shall not be reported as the results of more than one test.
   (6) All bioassay laboratory reports shall be sent to:

Department of Environmental Protection
Southwest District Office
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone No.: (813) 632-7600

g. Test Failures

(1) A test fails when the test results do not meet the limits in 10.a.(1) & (2).
(2) Additional Follow-up Tests:
  (a) If a routine test does not meet the chronic toxicity limitation in 10.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 10.d.
  (b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
  (c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be statistically analyzed according to the Appendices in EPA-821-R-02-013 or the most current edition.
(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
  (a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
  (b) The Department shall review and approve the plan before initiation.
  (c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
  (d) Progress reports shall be submitted quarterly to the Department at the address above.
  (e) During the period of time that the approved plan is ongoing, the permittee shall conduct routine whole effluent toxicity testing at the frequency of once every three months, but shall not be required to perform additional follow-up tests. If a routine test is invalid as established in EPA Methods, EPA-821-R-02-012, EPA-821-R-02-013, or EPA-821-R-02-014, a retest must be started within 21 days for a chronic test or 14 days for an acute test after the last day of the invalid test.
  (f) Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up whole effluent toxicity tests shall return to the schedule established in the facility wastewater permit. The permittee may terminate the plan at any time upon written verification by the Department that the facility has passed at least four consecutive valid routine whole effluent toxicity tests. *[62-4.241, 62-620.620(3)]*

11. For good cause and after notice and, if requested, an administrative hearing pursuant to section 120.57, F.S., the Department shall require the permittee to conform to new or additional permit conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions. When a permit is revised, only the conditions subject to revision are reopened. All other requirements and conditions of the existing permit shall remain in effect until the permit expires. *[62-620.325(1)]*

B. Reuse and Land Application Systems

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-001 and R-002. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Condition I.C.8:

			Reclaimed Water Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Flow, to R-001	MGD	Maximum	6.0	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-01	See Cond.I.B.4
Flow, to R-002	MGD	Maximum	2.3	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-02	See Cond.I.B.4
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	20.0	30.0	45.0	60.0	7 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	-	-	-	5.0	7 Days/Week	Grab	EFB-01	
pH	SU	Range	-	-	-	6.0 to 8.5	Continuous	Meter	EFD-01	See Cond.I.B.3
Coliform, Fecal, % less than detection	%	Minimum	-	75	-	-	Monthly	Calculation	EFA-01	See Cond.I.B.5
Coliform, Fecal	#/100ML	Maximum	-	-	-	25	7 Days/Week	Grab	EFA-01	See Cond.I.B.5
Total Residual Chlorine (For Disinfection)	MG/L	Minimum	-	-	-	1.0	Continuous	Meter	EFA-01	See Cond.I.B.6
Turbidity	NTU	Maximum	-	-	-	Report	Continuous	Meter	EFB-01	See Cond.I.B.7
Giardia	CYSTS/100 L	Maximum	-	-	-	Report	Once every two years	Filtered	EFA-01	See Cond.I.B.10
Cryptosporidium	OOCYSTS/100 L	Maximum	-	-	-	Report	Once every two years	Filtered	EFA-01	See Cond.I.B.10

2. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I. B. 1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-01	Flow to City of Tampa Public Access Reuse System - R-001
FLW-02	Flow to City of Tampa Refuse to Energy Facility (McKay Bay Facility) R-002
EFA-01	After disinfection and prior to discharge to R-001, R-002, and R-003.
EFB-01	Turbidity and TSS monitoring point after filtration and prior to disinfection.
EFD-01	After dechlorination and prior to discharge to Hillsborough Bay.

3. Hourly measurement of pH during the period of required operator attendance may be substituted for continuous measurement. *[Chapter 62-601, Figure 2]*

4. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least annually. *[62-601.200(17) and .500(6)]*

5. Over a 30-day period, at least 75 percent of the fecal coliform values shall be below the detection limits. No sample shall exceed 25 fecal coliforms per 100 mL. No sample shall exceed 5.0 mg/L of total suspended solids (TSS) at a point before the application of the disinfectant. Note: To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(5)(f)]*

6. The minimum total chlorine residual shall be limited as described in the approved operating protocol, such that the permit limitation for fecal coliform bacteria will be achieved. In no case shall the total chlorine residual be less than 1.0 mg/L. *[62-600.440(5)(b); 62-610.460(2); and 62-610.463(2)]*

7. The maximum turbidity shall be limited as described in the approved operating protocol, such that the permit limitations for total suspended solids and fecal coliforms will be achieved. *[62-610.463(2)]*

8. The treatment facilities shall be operated in accordance with all approved operating protocols. Only reclaimed water that meets the criteria established in the approved operating protocol(s) may be released to system storage or to the reuse system. Reclaimed water that fails to meet the criteria in the approved operating protocol(s) shall be directed to the following permitted alternate discharge system: D-001. The operating protocol(s) shall be reviewed and updated periodically to ensure continuous compliance with the minimum treatment and disinfection requirements. Updated operating protocols shall be submitted to the Department for review and approval upon revision of the operating protocol(s) and with each permit application. *[62-610.320(6) and 62-610.463(2)]*

9. Instruments for continuous on-line monitoring of total residual chlorine and turbidity shall be equipped with an automated data logging or recording device. *[62-610.463(2) & .865(8)(d)]*

10. Intervals between sampling for Giardia and Cryptosporidium shall not exceed two years. Sampling results shall be reported on DEP Form 62-610.300(4)(a)4 which is attached to this permit. (If additional sampling is required in accordance with the attached form, only one additional sampling event will be required within the two year monitoring frequency). The pathogen monitoring report shall be completed and submitted in a timely manner so as to be received by the Department by November 28 of every even-numbered year. *[62-610.463(4)]*

B. Reuse and Land Application Systems (continued)

11. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-003. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Condition I.C.8:

			Reclaimed Water Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Flow, To R-003	MGD	Maximum	4.32	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-03	See Cond.I.B.14
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	20.0	30.0	45.0	60.0	7 days/week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	20.0	30.0	45.0	60.0	7 days/week	24-hour FPC	EFA-01	
pH	SU	Range	-	-	-	6.0 to 8.5	Continuous	Meter	EFD-01	See Cond.I.B.13
Coliform, Fecal	#/100ML	Maximum	200	200 (Geo Mean)	-	800	7 days/week	Grab	EFA-01	See Cond.I.B.15
Total Residual Chlorine (For Disinfection)	MG/L	Minimum	-	-	-	0.5	Continuous	Meter	EFA-01	See Cond.I.B.13, and 16

12. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.B.11. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-03	Flow to industrial reuse system R-003.
EFA-01	After disinfection and prior to discharge to R-001, R-002, and R-003.
EFB-01	Turbidity and TSS monitoring point after filtration and prior to disinfection.
EFD-01	After dechlorination and prior to discharge to Hillsborough Bay.

13. Hourly measurement of pH and total residual chlorine for disinfection during the period of required operator attendance may be substituted for continuous measurement. *[Chapter 62-601, Figure 2]*

14. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least annually. *[62-601.200(17) and .500(6)]*

15. The arithmetic mean of the monthly fecal coliform values collected during an annual period shall not exceed 200 per 100 mL of reclaimed water sample. The geometric mean of the fecal coliform values for a minimum of 10 samples of reclaimed water, each collected on a separate day during a period of 30 consecutive days (monthly), shall not exceed 200 per 100 mL of sample. Any one sample shall not exceed 800 fecal coliform values per 100 mL of sample. *[62-610.410 and 62-600.440(4)(c)]*

16. A minimum of 0.5 mg/L total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. *[62-610.410 and 62-600.440(4)(b)]*

C. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with Condition I.C.8:

			Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Flow, Total Plant	MGD	Maximum	96.0	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-04	See Cond.I.C.4
Percent Capacity, (3MRADF/Permitted Capacity) x 100	%	Maximum	-	Report	-	-	Monthly	Calculation	FLW-04	
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	-	Report	-	-	Weekly	24-hour FPC	INF-01	See Cond.I.C.3
Solids, Total Suspended	MG/L	Maximum	-	Report	-	-	Weekly	24-hour FPC	INF-01	See Cond.I.C.3

2. Samples shall be taken at the monitoring site locations listed in Permit Condition I.C.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-04	Total plant flow measured at the headworks.
INF-01	At headworks, prior to primary treatment

3. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. [62-601.500(4)]

4. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least annually. [62-601.200(17) and .500(6)]

5. Parameters which must be monitored as a result of a surface water discharge shall be analyzed using a sufficiently sensitive method to assure compliance with applicable water quality standards and effluent limitations in accordance with 40 CFR (Code of Federal Regulations) Part 136. Parameters which must be monitored as a result of a ground water discharge (i.e., underground injection or land application system) shall be analyzed in accordance with Chapter 62-601, F.A.C. All monitoring shall be representative of the monitored activity. *[62-620.320(6)]*

6. The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitative limits), which is titled "FAC 62-4 MDL/PQL Table (April 26, 2006)" and is available at http://www.dep.state.fl.us/labs/library/index.htm. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a) The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;
   b) The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide a MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and
   c) If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

   When the analytical results are below method detection limit, the permittee shall report the actual laboratory MDL or the permit limit, whichever is less, on the applicable discharge monitoring report.

   Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is in accordance with 40 CFR 136. *[62-4.246, 62-160]*

7. The permittee shall provide safe access points for obtaining representative influent, reclaimed water, and effluent samples which are required by this permit. *[62-601.500(5)]*

8. Monitoring requirements under this permit are effective on the first day of the second month following permit issuance. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e., monthly, toxicity, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates

below, unless specified elsewhere in the permit.

REPORT Type	Monitoring Period	Due Date
Monthly or Toxicity	first day of month – last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 – June 30 July 1 – December 31	July 28 January 28
Annual	January 1 – December 31	January 28

The permittee may submit either paper or electronic DMRs. The permittee must use the attached DMR as a template, without altering the original format or content unless approved by the Department. Completed DMRs shall be submitted to the Department's Southwest District Office at the address specified in Permit Condition I.B.12 by the twenty-eighth (28th) day of the month following the month of operation. Paper copies postmarked by the 28th meet the intent of this requirement. If submitting electronic DMRs, portable document format (pdf) is preferred. Data submitted electronically is equivalent to data submitted on signed paper DMRs only when bearing an original signature. DMRs shall be submitted for each required monitoring period including months of no discharge.

[62-620.610(18), 62-601.300(1), (2), and (3)]

9. During the period of operation authorized by this permit, reclaimed water or effluent shall be monitored annually for the primary and secondary drinking water standards contained in Chapter 62-550, F.A.C., (except for asbestos, color, and corrosivity). Twenty-four hour composite samples and grab samples where appropriate shall be used to analyze reclaimed water or effluent for the primary and secondary drinking water standards. These monitoring results shall be reported to the Department annually on the DMR under monitoring group number RWS-01. During years when a permit is not renewed, a certification stating that no new non-domestic wastewater dischargers have been added to the collection system since the last reclaimed water or effluent analysis was conducted may be submitted in lieu of the report. The annual reclaimed water or effluent analysis report or the certification shall be completed and submitted in a timely manner so as to be received by the Department by June 28 of each year. Approved analytical methods identified in Rule 62-620.100(3)(j), F.A.C., shall be used for the analysis. If no method is included for a parameter, methods specified in Chapter 62-550, F.A.C., shall be used. *[62-601.300(4)][62-601.500(3)][62-610.300(4)]*

10. The permittee shall submit an Annual Reuse Report using DEP Form 62-610.300(4)(a)2. on or before January 1 of each year. *[62-610.870(3)]*

11. The permittee shall maintain an inventory of storage systems. The inventory shall be submitted to the Department at least 30 days before reclaimed water will be introduced into any new storage system. The inventory of storage systems shall be attached to the annual submittal of the Annual Reuse Report. *[62-610.464(5)]*

12. Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department at the address specified below:

Florida Department of Environmental Protection
Compliance Assurance Program
Attention: Domestic Wastewater
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Email Address: firstname.lastname@dep.state.fl.us

Phone Number - 813-632-7600
FAX Number - 813-632-7662

All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

II RESIDALS MANAGEMENT REQUIREMENTS

1. The method of residuals use or disposal by this facility are distribution and marketing, land application, transport to an RMF or disposal in a Class I solid waste landfill. Transportation of the residuals to an RMF does not require a permit modification, however, use of an RMF requires a copy of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the Department at least 30 days before transport of the residuals. *[62-620,320(6),62-640.880(1)]*

2. The permittee shall be responsible for proper treatment, management, use, and land application or disposal of its residuals. *[62-640.300(5)]*

3. The permittee will not be held responsible for violations resulting from land application of residuals if the permittee can demonstrate that it has delivered residuals that meet the parameter concentrations and appropriate treatment requirements of this rule and the applier (e.g. hauler, contractor, site manager, or site owner) has legally agreed in writing to accept responsibility for proper land application of the residuals. Such an agreement shall state that the applier agrees, upon delivery of residuals that have been treated as required by Chapter 62-640, F.A.C., that he will accept responsibility for proper land application of the residuals as required by Chapter 62-640, F.A.C., and that the applier agrees that he is aware of and will comply with requirements for proper land application as described in the facility's permit. *[62-640.300(5)]*

4. Florida water quality criteria and standards shall not be violated as a result of land application of residuals from this facility. *[62-640.700(2)(b)]*

5. Disposal of residuals, septage, and other solids in a solid waste disposal facility, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with the requirements of Chapter 62-701, F.A.C. *[62-640.100(6)(k)3&4]*

6. If the permittee intends to accept residuals from other facilities, a permit revision is required pursuant to Rule 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

7. Storage of residuals or other solids at the permitted facility shall require prior written notification to the Department. *[62-640.300(4)]*

8. Land application of residuals shall be in accordance with the conditions of this permit, the approved Agricultural Use Plan(s), and the requirements of Chapter 62-640, F.A.C. *[62-640]*

9. The domestic wastewater residuals for this facility are classified as Class AA, A and B.

10. During the period beginning on the issuance date and lasting through the expiration date of this permit, Class A and AA residuals shall be limited and monitored by the permittee as specified below.

		Monitoring Requirements						
Parameter	**Units**	**Max/ Min**	**Monthly Average (Class AA Only)**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Fecal Coliform *or*	MPN	Maximum	-	<1000 per gram of dried solids	Monthly	Grab	RMP-A	See Cond. 14
Salmonella, sp. bacteria	MPN	Maximum	-	<3 per 4 grams of dried solids	Monthly	Grab	RMP-A	See Cond. 14
Total Nitrogen	% dry weight	Maximum	-	Report	Monthly	Composite	RMP-A	
Total Phosphorus	% dry weight	Maximum	-	Report	Monthly	Composite	RMP-A	
Total Potassium	% dry weight	Maximum	-	Report	Monthly	Composite	RMP-A	
pH	standard units	Minimum	-	Report	Monthly	Grab	RMP-A	
Arsenic	mg/kg	Maximum	41	75	Monthly	Composite	RMP-A	
Cadmium	mg/kg	Maximum	39	85	Monthly	Composite	RMP-A	
Copper	mg/kg	Maximum	1500	4300	Monthly	Composite	RMP-A	
Lead	mg/kg	Maximum	300	840	Monthly	Composite	RMP-A	
Mercury	mg/kg	Maximum	17	57	Monthly	Composite	RMP-A	
Molybdenum	mg/kg	Maximum	Report	75	Monthly	Composite	RMP-A	
Nickel	mg/kg	Maximum	420	420	Monthly	Composite	RMP-A	
Selenium	mg/kg	Maximum	100	100	Monthly	Composite	RMP-A	
Zinc	mg/kg	Maximum	2800	7500	Monthly	Composite	RMP-A	

11. Residuals samples shall be taken at the monitoring site locations listed in Permit Condition II.8 and as described below:

Monitoring Site Number	Description of Monitoring Site
RMP-A	Class A & Class AA final product, after heat drying and prior to distribution.

12. The permittee shall achieve Class A pathogen reduction by meeting the pathogen reduction requirements in section 503.32(a)(7) (Use of PFRP (Processes to Further Reduce Pathogens-Heat Drying – Alternative 5) of Title 40 CFR Part 503. *[62-640.600(1)(a)]*

13. The permittee shall achieve vector attraction reduction by meeting the vector attraction reduction requirements in section 503.33(b)(8) (Reduce moisture content of biosolids with unstabilized solids to at least 90 Percent – Option 8) of Title 40 CFR Part 503. *[62-640.600(2)(a)]*

14. Alternative 5 requires either the density of fecal coliform in the sewage sludge shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella, sp. bacteria in the sewage sludge shall be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in Sec. 503.10(b), (c), (e), or (f).

15. Option 8 requires that the sewage sludge is dried by direct or indirect contact with hot gases to reduce the moisture content of the sewage sludge to 10% or lower. Either the temperature of the sewage sludge particles exceeds 80 °C (176 °F) or the wet bulb temperature of the gas in contact with the sewage sludge as the sewage sludge leaves the dryer exceeds 80 °C (176 °F).

16. Use of Class A residuals is allowed on unrestricted public access areas such as playgrounds, parks, golf courses, lawns, and hospital grounds. *[62-640.600(3)(a)]*

17. Residuals that do not meet the requirements of Chapter 62-640, F.A.C., for Class AA designation shall not be used for the cultivation of tobacco or leafy vegetables. *[62-640.400(7)]*

18. Only domestic wastewater residuals that meet Class AA standards may be sold or given away in a distribution and marketing program. The distribution and marketing of residuals shall be conducted in accordance with Chapter 62-640, F.A.C.*[62-640.850]*

19. The permittee shall submit a Monthly Residuals Distribution and Marketing Report to the Domestic Wastewater Section of the Department on Form 62-640.210(2)(c) by the 28th day of the month following the reporting month. The report shall be submitted to the following address:

    Florida Department of Environmental Protection
    Domestic Wastewater Section, Mail Station 3540
    Bob Martinez Center
    2600 Blair Stone Road
    Tallahassee, Florida 32399-2400
    [62-640.850(4)]

20. The permittee shall make the following information available to users by product labels or other means:

    a. The name and address of the facility or person that produced the Class AA residuals;
    b. A statement that the residuals or residuals product meets the criteria of Rule 62-640.850(3), F.A.C.;
    c. A recommendation that residuals be applied at a rate that does not exceed the agronomic rate; and
    d. The following residuals analysis information (dry weight basis):
        Total Nitrogen (%)
        Total Phosphorus (%)
        Total Potassium (%)

    [62-640.850(5)]

21. During the period beginning on the issuance date and lasting through the expiration date of this permit, Class B residuals shall be limited and monitored by the permittee as specified below.

		Monitoring Requirements						
Parameter	**Units**	**Max/ Min**	**Ceiling Concentrations Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**	**Cumulative Application Limits pounds/acre**
Fecal Coliform	CFU or MPN	Maximum	<2 million/gram	every 2 months	Grab	RMP-B	See Cond. 25	
Temperature	Degrees	Range	Report	Continuous	Meter	RMP-B	See Cond. 26	-
Time	Days	Maximum	Report	7 Days/Week	Calculation	RMP-B	See Cond. 26	-
Volatile Solids	% reduction	Minimum	≥38%	every 2 months	Grab	RMP-B	See Cond. 24	-
Total Nitrogen	% dry weight	Maximum	Report	every 2 months	Composite	RMP-B		-
Total Phosphorus	% dry weight	Maximum	Report	every 2 months	Composite	RMP-B		-
Total Potassium	% dry weight	Maximum	Report	every 2 months	Composite	RMP-B		-
pH	standard units	Minimum	Report	every 2 months	Grab	RMP-B		-
Total Solids	Percent	Minimum	Report	every 2 months	Composite	RMP-B		-
Arsenic	mg/kg	Maximum	75	every 2 months	Composite	RMP-B		36.6
Cadmium	mg/kg	Maximum	85	every 2 months	Composite	RMP-B		34.8
Copper	mg/kg	Maximum	4300	every 2 months	Composite	RMP-B		1340
Lead	mg/kg	Maximum	840	every 2 months	Composite	RMP-B		268
Mercury	mg/kg	Maximum	57	every 2 months	Composite	RMP-B		15.2
Molybdenum	mg/kg	Maximum	75	every 2 months	Composite	RMP-B		-
Nickel	mg/kg	Maximum	420	every 2 months	Composite	RMP-B		375
Selenium	mg/kg	Maximum	100	every 2 months	Composite	RMP-B		89.3
Zinc	mg/kg	Maximum	7500	every 2 months	Composite	RMP-B		2500

22. Residuals samples shall be taken at the monitoring site locations listed in Permit Condition II.21 and as described below:

Monitoring Site Number	Description of Monitoring Site
RMP-B	Class B final product, after treatment and prior to land application.

23. The permittee shall achieve Class B pathogen reduction by meeting the pathogen reduction requirements in section 503.32(b)(2) (Monitoring of Fecal Coliform – Alternative 1) or 503.32(b)(3) (Use of PSRP - Processes to Significantly Reduce Pathogens-Anaerobic Digestion – Alternative 2) of Title 40 CFR Part 503. *[62-640.600(1)(b)]*

24. The permittee shall achieve vector attraction reduction by meeting the vector attraction reduction requirements in section 503.33(b)(1) (Reduce the mass of volatile solids by a minimum of 38 Percent – Option 1) or 503.33(b)(10) (Incorporation of Sewage Sludge into Soil – Option 10) of Title 40 CFR Part 503. *[62-640.600(2)(a)]*

25. Alternative 1 requires that seven samples of treated sewage sludge (biosolids) be collected over a 2-week period and that the geometric mean fecal coliform density of these samples be less than 2 million CFU or MPN per gram of biosolids (dry weight basis). This approach uses fecal coliform density as an indicator of the average density of bacterial and viral pathogens. Over the long term, fecal coliform density is expected to correlate with bacterial and viral pathogen density in biosolids treated by biological treatment processes.

26. Alternative 2 requires sewage sludge is treated in the absence of air for a specific mean cell residence time (i.e. solids retention time) at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35°C to 55°C (131°F) and 60 days at 20°C (68°F).

27. Treatment of liquid residuals or septage for the purpose of meeting the pathogen reduction or vector attraction reduction requirements set forth in Rule 62-640.600, F.A.C., shall not be conducted in the tank of a hauling vehicle. Treatment of residuals or septage for the purpose of meeting pathogen reduction or vector attraction reduction requirements shall take place at the permitted facility. *[62-640.400(8)]*

28. The permittee shall sample and analyze the residuals to monitor for pathogen and vector attraction reduction requirements of Rule 62-640.600, F.A.C.

29. Sampling and analysis shall be conducted in accordance with Title 40 CFR Part 503, section 503.8 and the U.S. Environmental Protection Agency publication - POTW Sludge Sampling and Analysis Guidance Document, 1989. In cases where disagreements exist between Title 40 CFR Part 503, section 503.8 and the POTW Sludge Sampling and Analysis Guidance Document, the requirements in Title 40 CFR Part 503, section 503.8 will apply. *[62-640.650(1), 62-640.700(1), 62-640.700(3)(b), and 62-640.850(3)]*

30. Land application of "other solids" as defined in Chapter 62-640, F.A.C., is only allowed if specifically addressed in the Agricultural Use Plan(s) approved for this facility. Land application of "other solids" is subject to Chapter 62-640, F.A.C., and the permit conditions that apply to land applied residuals. *[62-640.860]*

31. Grab samples shall be used for pathogens and determinations of percent volatile solids. Composite samples shall be used for metals. *[62-640.650(1)(e)]*

32. Residuals shall not be land applied if a single sample result for any parameter exceeds the ceiling concentrations given in this permit. Residuals shall not be distributed and marketed if the monthly average of sample results for any parameter exceeds the Class AA parameter concentrations given in this permit. Monthly averages of parameter concentrations shall be determined by taking the arithmetic mean of all sample results for the month. *[62-640.650(1)(f)]*

33. The permittee shall submit the results of all residuals monitoring with the permittee's Discharge Monitoring Report under Chapter 62-601, F.A.C. The analytical results from each sampling event shall be submitted with the report for the month in which the sampling event occurs. *[62-640.650(3)(a)&(e)]*

34. All samples shall be representative of the residuals used or land applied and shall be taken after final treatment of the residuals but before use or land application. *[62-640.650(1)(d)]*

35. Class B residuals shall not be used on unrestricted public access areas. Use of Class B residuals is limited to restricted public access areas such as agricultural sites, forests, and roadway shoulders and medians. *[62-640.600(3)(b)]*

36. Plant nursery use of Class B residuals is limited to plants which will not be sold to the public for 12 months after the last application of residuals. *[62-640.600(3)(b)1]*

37. Use of Class B residuals on roadway shoulders and medians is limited to restricted public access roads. *[62-640.600(3)(b)2]*

38. Food crops, feed crops, and fiber crops shall not be harvested for 30 days following the last application of Class B residuals. *[62-640.600(3)(b)6]*

39. Food crops with harvested parts that touch the residuals/soil mixture and are totally above the land surface shall not be harvested for 14 months after the last application of Class B residuals. *[62-640.600(3)(b)3]*

40. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of Class B residuals when the residuals remain on the land surface for four months or longer before incorporation into the soil. *[62-640.600(3)(b)4]*

41. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of Class B residuals when the residuals remain on the land surface for less than four months before incorporation into the soil. *[62-640.600(3)(b)5]*

42. Animals shall not be grazed on the land for 30 days after the last application of Class B residuals. *[62-640.600(3)(b)7]*

43. Sod which will be distributed or sold to the public or used on unrestricted public access areas shall not be harvested for 12 months after the last application of Class B residuals. *[62-640.600(3)(b)8]*

44. The public shall be restricted from application zones for 12 months after the last application of Class B residuals. *[62-640.600(3)(b)]*

45. Current Agricultural Use Plan(s) identify residuals landspreading on the following sites:

Application Site Number	Site Name	Latitude			Longitude			Application Area (acres)	County
		°	'	"	°	'	"		
FLA617903	Hayman 711	27	50	3	80	58	57	3245	Osceola
FLA430412	Southerland	27	48	14	81	43	38	1043	Polk
FLA289914	5R Ranch	27	51	53	81	37	9	1500	Polk
FLA290343	Fox Branch Cattle	28	10	38	82	2	57	2033	Polk
FLA311898	Circle Cross	27	53	16	81	41	27	693	Polk
FLA690163	B-Bar-J	27	45	48	81	39	42	506	Polk
FLA690392	Chris Walker	27	47	59	81	38	53	146	Polk

The wastewater treatment facility permittee shall apply for a minor permit revision on DEP Form 62-620.910(9) for new, modified, or expanded residuals land application sites. The facility's permit shall be revised to include the new or revised Agricultural Use Plan(s) prior to application of residuals to the new, modified, or expanded sites, unless, under unusual circumstances, all of the following conditions are met:

a. The permittee notifies the Department within 24 hours that the site is being used;

b. The site meets the site use restrictions of Rule 62-640.600(3), F.A.C, and the criteria for land application of residuals in Rule 62-640.700, F.A.C.;

c. The permittee submits a new or revised Agricultural Use Plan for the site with a permit application in accordance with Rule 62-640.300(2), F.A.C., within 30 days of beginning use of the site;

d. The permittee does not have another approved land application site, another approved disposal method (e.g. landfilling), or approved storage facilities available for use; and,

e. The permittee demonstrates during permit application that application of additional residuals to an existing approved application site would have resulted in violation of Department rules, or was not possible due to circumstances beyond the permittee's control.

[62-640.300(2)&(3)]

46. Residuals application rates are limited to agronomic rates based on the site vegetation as identified in the Agricultural Use Plan. *[62-640.750(2)]*

47. Residuals storage facilities at land application sites shall be subject to applicable setback requirements for residuals application sites. Residuals stored at land application sites shall be stored in a manner that will not cause runoff or seepage from the residuals, objectionable odors, or vector attraction. Storage areas must be fenced or otherwise provided with appropriate features to discourage the entry of animals and unauthorized persons. At the time of application, the stored residuals must meet the parameter concentrations, pathogen and vector attraction reduction requirements, and cumulative application limits of this permit. Residuals storage facilities at land application sites may be used only for temporary storage of stabilized residuals for no more than 30 days during periods of inclement weather or to accommodate agricultural operations, or up to the period (not to exceed two years) specified in the Agricultural Use Plan. *[62-640.700(2)(e)]*

48. Residuals application sites shall be posted with appropriate advisory signs identifying the nature of the project area. *[62-640.700(2)(f)]*

49. The pH of the residuals soil mixture shall be 5.0 or greater at the time residuals are applied. At a minimum, soil pH testing shall be done annually. *[62-640.700(5)(d)]*

50. The permittee shall maintain records of application zones and application rates and shall make these records available for inspection within seven days of request by the Department, or delegated Local Program. The permittee shall maintain record items a. through e. below in perpetuity, and maintain record items f. through k. for five years:

a. Date of application of the residuals;
b. Location of the residuals application site as specified in the Agricultural Use Plan;
c. Identification of each application zone used by the permittee at the application site and the acreage of each zone;
d. Amount of residuals applied or delivered to each application zone;
e. Cumulative loading of each application zone;
f. The names of all other wastewater facilities using each of the application zones identified in item c.;
g. Method of incorporation (if any);
h. Measured pH of the residuals soil mixture at the time the residuals are applied (tested at least annually);
i. Unsaturated depth of soil above the water table level at the time of application;
j. Concentration of parameters in the residuals as required by this permit, and the date of last analysis; and
k. The results of any soil testing that is done under Rule 62-640.500(4)(a), F.A.C.

51. The permittee shall submit an annual summary of residuals application activity to the Department's Southwest District Office on Department Form 62-640.210(2)(b) for all residuals applied during the period of January 1 through December 31. The summary for each year shall be submitted by February 19 of the following year. If more than one facility applies residuals to the same application zones, the summary must include a subtotal of each facility's contribution of residuals to the application zones. *[62-640.650(3)(b)]*

52. If residuals that are subject to the cumulative loading limitations of Rule 62-640.700(3), F.A.C., have been applied to an application zone, and the cumulative loading amount of one or more of the pollutants is not known, no further applications of residuals may be made to that application zone. *[62-640.700(3)(f)]*

53. Residuals shall be applied with appropriate techniques and equipment to assure uniform application over the application zone. *[62-640.700(2)(c)]*

54. The spraying of liquid domestic wastewater residuals shall be conducted so that the formation of aerosols is minimized. *[62-640.700(2)(d)]*

55. A minimum unsaturated soil depth of two feet above the water table level is required at the time the residuals are applied to the soil. *[62-640.700(6)(a)]*

56. Residuals shall not be applied during rains that cause runoff from the site or when surface soils are saturated. *[62-640.700(7)(a)]*

57. The permittee shall enter into a written agreement with each source facility that it intends to receive residuals from. The agreement shall address the quality and quantity of the residuals accepted by the permittee. The agreement shall include a statement, signed by the permittee, as to the availability of sufficient permitted capacity to receive the residuals from the source facility, and indicating that the permittee will continue to operate in compliance with the requirements of its permit. The agreement shall also address responsibility during transport of residuals between the facilities. The permittee shall submit a copy of this agreement to the Southwest District Office at least 30 days before transporting residuals from the source facility to the permittee. *[62-640.880(1)(c)]*

58. The permittee shall keep hauling records to track the transport of residuals between facilities. The hauling records shall contain the following information:

Source Facility
1. Date and Time Shipped
2. Amount of Residuals Shipped
3. Degree of Treatment (if applicable)
4. Name and ID Number of Residuals Management Facility or Treatment Facility
5. Signature of Responsible Party at Source Facility
6. Signature of Hauler and Name of Hauling Firm

Residuals Management Facility or Treatment Facility
1. Date and Time Received
2. Amount of Residuals Received
3. Name and ID Number of Source Facility
4. Signature of Hauler
5. Signature of Responsible Party at Residuals Management Facility or Treatment Facility

These records shall be kept for five years and shall be made available for inspection upon request by the Department. A copy of the hauling records information maintained by the source facility shall be provided upon delivery of the residuals to the residuals management facility or treatment facility. The permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of residuals leaving the source facility and arriving at the residuals management facility or treatment facility. *[62-640.880(4)]*

59. Class AA residuals shall not be distributed or marketed in the Lake Okeechobee, St. Lucie River, and Caloosahatchee River watersheds unless they are distributed and marketed as a fertilizer. The Class AA residuals produced by this facility can be distributed and marketed in these watersheds if the residuals are distributed and marketed as fertilizer under Chapter 576 F.S., and Chapter 5E-1 F.A.C., or distributed and marketed to a person who will sell or give away the residuals as a fertilizer or as a component in a fertilizer product under Chapter 576 F.S., and Chapter 5E-1, F.A.C. (373.4595, F.S.)

III. GROUND WATER REQUIREMENTS

1. For the Part III Public Access system, all ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge. The zone of discharge for shall extend horizontally 100 feet from the application site and vertically to the base of the surficial aquifer. *[62-520.200(26)] [62-520.465]*

2. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

3. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the monitoring wells identified in Permit Condition III.4., below in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-520.600, F.A.C. *[62-520.600] [62-610.463]*

4. The following monitoring wells shall be sampled in accordance with the monitoring frequencies specified in Permit Condition III.5. for Reuse System R-001. Quarterly sampling must be reasonably spaced to be representative of potentially changing conditions.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Depth (Feet)	Aquifer Monitored	New or Existing
MWC-01	SP-1 (Swann Park)	15	Surficial	existing
MWC-02	SP-2 (Swann Park)	15	Surficial	existing
MWC-03	GE-1 (Gorrie Elem.)	15	Surficial	existing
MWC-04	GE-2 (Gorrie Elem.)	15	Surficial	existing

MWB = Background; MWI = Intermediate; MWC = Compliance

[62-520.600][62-610.463]

5. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.4. Results shall be reported on the permittee's Discharge Monitoring Report in accordance with Condition I.C.8:

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Quarterly
Nitrogen, Nitrate, Total (as N)	10	mg/L	Grab	Quarterly
Solids, Total Dissolved (TDS)	500	mg/L	Grab	Quarterly
Arsenic, Total Recoverable	10	ug/L	Grab	Quarterly
Chloride (as Cl)	250	mg/L	Grab	Quarterly
Cadmium, Total Recoverable	5	ug/L	Grab	Quarterly
Chromium, Total Recoverable	100	ug/L	Grab	Quarterly
Lead, Total Recoverable	15	ug/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH*	6.5-8.5	s.u.	In Situ	Quarterly
Sulfate, Total	250	mg/L	Grab	Quarterly
Turbidity*	Report	NTU	Grab	Quarterly
Specific Conductance	Report	umhos/cm	In Situ	Quarterly
Sodium, Total Recoverable*	160	mg/L	Grab	Quarterly
Temperature (C), Water*	Report	Deg C	In Situ	Quarterly
Oxygen, Dissolved (DO)*	Report	mg/L	In Situ	Quarterly

* The field parameters shall be sampled per DEP–SOP-001/01, FS 2200 Groundwater Sampling and recorded, (see Figure FS 2200-2 Groundwater Purging Procedure and Form FD 9000-24, Groundwater Sampling Log). The field parameters to be reported on Part D of GW DMR shall be the last sample recorded.

[62-520.600(11)(b)] [62-601.300(3), 62-601.700, and Figure 3 of 62-601][62-601.300(6)] [62-520.300(9)]

6. If the concentration for any constituent listed in Permit Condition III. 5. in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative natural background quality shall be the prevailing standard. *[62-520.420(2)]*

7. In accordance with Part D of Form 62-620.910(10), water levels shall be recorded before evacuating wells for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NGVD allowable) at a precision of plus or minus 0.1 foot. *[62-610.463(3)(a),]*

8. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. *[62-601.700(5)]*

9. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's Southwest District Office as being more representative of ground water conditions. *[62-520.300(9)]*

10. Ground water monitoring parameters shall be analyzed in accordance with Chapter 62-601, F.A.C. *[62-620.610(18)]*

11. For permit renewal, the permittee shall submit, to the Southwest District Office, the results of sampling monitoring wells specified in the Department-approved monitoring plan for the primary and secondary drinking water parameters included in Chapter 62-550, F.A.C., (excluding asbestos, acrylamide, Dioxin, butachlor, epichlorohydrin, pesticides, and PCBs, unless reasonably expected to be a constituent of the discharge or an artifact of the site). Additional volatile and semivolatile parameters as specified in the ground water monitoring plan or permit shall be analyzed. Sampling shall occur no sooner than 180 days before submittal of the renewal application. *([62-520.600(5)(b)]*

12. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10). For reuse or land application projects, results shall be submitted with the DMR for each month listed in the following schedule. The submitted results shall be for each year during the period of operation allowed by this permit in accordance with Permit Condition I.D.12. *[62-520.600(11)(b)] [62-601.300(3), 62.601.700, and Figure 3 of 62-601] [62-620.610(18)]*

SAMPLE PERIOD	REPORT DUE DATE
January - March	April 28
April - June	July 28
July - September	October 28
October - December	January 28

13. If any monitoring well becomes inoperable or damaged to the extent that sampling or well integrity may be affected, the permittee shall notify the Department's Southwest District Office within two business days from discovery, and a detailed written report shall follow within ten days after notification to the Department. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent recurrence or request approval for replacement of the monitoring well. All monitoring well design and replacement shall be approved by the Department before installation. *[62-520.600(6)(l)]*

14. All piezometers and wells that are not reasonably expected to be used are to be plugged and abandoned in accordance with subsection 62-532.500(4), F.A.C. The permittee shall submit a written report to the Department's office that issued the permit providing verification of the plugging including the well abandonment log when available; *[62-520.600(6)(k)]*

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

A. Part III Public Access System(s)

1. Use of reclaimed water is authorized within the general service area consisting of the City of Tampa service area as outlined on the map titled Section C-VIII Proposed City of Tampa Reclaimed Water Service Area. This reuse system includes the following major users (i.e., using 0.1 MGD or more of reclaimed water):

User Name	User Type	Capacity (MGD)	Acreage
STAR	Landscape / Residential	4.25	1,611
Phase A		1.3	
Tampa International Airport	Landscape/ Commercial	0.23	
Tampa Port Authority	Landscape/ Commercial	0.22	
Totals		6.0	

[62-610.800(5)][62-620.630(10)(b)]

2. New major users of reclaimed water (i.e., using 0.1 MGD or more) may be added to the reuse system using the general permit described in Rule 62-610.890, F.A.C., if the requirements in this rule are complied with. Application for use of this general permit shall be made using Form 62-610.300(4)(a)1. *[62-610.890]*

3. Cross-connections to the potable water system are prohibited. *[62-610.469(7)]*

4. A cross-connection control program shall be implemented and/or remain in effect within the areas where reclaimed water will be provided for use. [62-610.469(7)]

5. The permittee shall conduct inspections within the reclaimed water service area to verify proper connections, to minimize illegal cross-connections, and to verify the proper use of reclaimed water. Inspections are required when a customer first connects to the reuse distribution system. Subsequent inspections are required as specified in the cross-connection control and inspection program. *[62-610.469(7)(h)]*

6. If a cross-connection between the potable and reclaimed water systems is discovered, the permittee shall:

   a. Immediately discontinue potable water and/or reclaimed water service to the affected area.

   b. If the potable water system is contaminated, clear the potable water lines.

   c. Eliminate the cross-connection.

   d. Test the affected area for other possible cross-connections.

   e. Within 24 hours, notify the Department's Southwest District Office's domestic wastewater and drinking water programs.

   f. Within 5 days of discovery of a cross-connection, submit a written report to the Department's Southwest District Office detailing: a description of the cross-connection, how the cross-connection was discovered, the exact date and time of discovery, approximate time that the cross-connection existed, the location, the cause, steps taken to eliminate the cross-connection, whether reclaimed water was consumed, and reports of possible illness, whether the drinking water system was contaminated and the steps taken to clear the drinking water system, when the cross-connection was eliminated, plan of action for testing for other possible cross-connections in the area, and an evaluation of the cross-connection control and inspection program to ensure that future cross-connections do not occur.

   [62-555.350(3) and 62-555.360][62-620.610(20)]

7. Maximum obtainable separation of reclaimed water lines and potable water lines shall be provided and the minimum separation distances specified in Rule 62-610.469(7), F.A.C., shall be provided. Reuse facilities shall be color coded or marked. Underground piping which is not manufactured of metal or concrete shall be color coded using Pantone Purple 522C using light stable colorants. Underground metal and concrete pipe shall be color coded or marked using purple as the predominant color. *[62-610.469(7)]*

8. In constructing reclaimed water distribution piping, the permittee shall maintain a 75-foot setback distance from a reclaimed water transmission facility to public water supply wells. No setback distances are required to other potable water supply wells or to any nonpotable water supply wells. *[62-610.471(3)]*

9. A setback distance of 75 feet shall be maintained between the edge of the wetted area and potable water supply wells, unless the utility adopts and enforces an ordinance prohibiting potable water supply wells within the reuse service area. No setback distances are required to any nonpotable water supply well, to any surface water, to any developed areas, or to any private swimming pools, hot tubs, spas, saunas, picnic tables, barbecue pits, or barbecue grills. *[62-610.471(1), (2), (5), and (7)]*

10. Reclaimed water shall not be used to fill swimming pools, hot tubs, or wading pools. *[62-610.469(4)]*

11. Low trajectory nozzles, or other means to minimize aerosol formation shall be used within 100 feet from outdoor public eating, drinking, or bathing facilities. *[62-610.471(6)]*

12. A setback distance of 100 feet shall be maintained from indoor aesthetic features using reclaimed water to adjacent indoor public eating and drinking facilities. *[62-610.471(8)]*

13. The public shall be notified of the use of reclaimed water. This shall be accomplished by posting of advisory signs in areas where reuse is practiced, notes on scorecards, or other methods. *[62-610.468(2)]*

14. All new advisory signs and labels on vaults, service boxes, or compartments that house hose bibbs along with all labels on hose bibbs, valves, and outlets shall bear the words "do not drink" and "no beber" along with the equivalent standard international symbol. In addition to the words "do not drink" and "no beber," advisory signs posted at storage ponds and decorative water features shall also bear the words "do not swim" and "no nadar" along with the equivalent standard international symbols. Existing advisory signs and labels shall be retrofitted, modified, or replaced in order to comply with the revised wording requirements. For existing advisory signs and labels this retrofit, modification, or replacement shall occur within 365 days after the date of this permit. For labels on existing vaults, service boxes, or compartments housing hose bibbs this retrofit, modification, or replacement shall occur within 730 days after the date of this permit. *[62-610.468, 62-610.469]*

15. The permittee shall ensure that users of reclaimed water are informed about the origin, nature, and characteristics of reclaimed water; the manner in which reclaimed water can be safely used; and limitations on the use of reclaimed water. Notification is required at the time of initial connection to the reclaimed water distribution system and annually after the reuse system is placed into operation. A description of on-going public notification activities shall be included in the Annual Reuse Report. *[62-610.468(6)]*

16. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414(8)]*

17. Overflows from emergency discharge facilities on storage ponds shall be reported as abnormal events in accordance with Permit Condition IX.20. *[62-610.800(9)]*

B. Part VII Industrial Uses of Reclaimed Water

1. Reclaimed water shall not be used in the manufacture or processing of food or beverage for human consumption where the reclaimed water will be incorporated into or come into contact with the food or beverage product. *[62-610.650(4)]*

2. Advisory signs shall be posted around the portions of the industrial site in which reclaimed water is used and at the main entrances to the industrial site to notify employees at the industrial site and the public of the nature of the reclaimed water use. *[62-610.658]*

3. Cross-connections to the potable water system are prohibited. *[62-610.660(1)]*

4. There shall be readily identifiable "non-potable" or "do not drink" notices, marking, or coding on application/distribution facilities and appurtenances. *[62-610.660(2)]*

5. The return of reclaimed water to the reclaimed water distribution system after it has been delivered to the industrial facility is prohibited. *[62-610.660(3)]*

V. OPERATION AND MAINTENANCE REQUIREMENTS

A. Staffing Requirements

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of a(n) operator(s) certified in accordance with Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category I, Class A facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator 24 hours/day for 7 days/week. The lead/chief operator must be a Class A operator.

2. The lead/chief operator shall be employed at the plant full time. "Full time" shall mean at least 4 days per week, working a minimum of 35 hours per week, including leave time. A licensed operator shall be on-site and in charge of each required shift for periods of required staffing time when the lead/chief operator is not on-site. An operator meeting the lead/chief operator class for the treatment plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(10), (6) and (1)]*

B. Capacity Analysis Report and Operation and Maintenance Performance Report Requirements

1. The application to renew this permit shall include an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(5)]*

2. The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

C. Recordkeeping Requirements

1. The permittee shall maintain the following records and make them available for inspection at the following address: on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by the permit for at least three years from the date the report was prepared;

   c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;

   d. Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the residuals use and disposal activities for the time period set forth in Chapter 62-640, F.A.C., for at least three years from the date of sampling or measurement;

   e. A copy of the current permit;

   f. A copy of the current operation and maintenance manual as required by Chapter 62-600, F.A.C.;

   g. A copy of any required record drawings;

   h. Copies of the licenses of the current certified operators; and

i. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and license number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities, including any preventive maintenance or repairs made or requested; results of tests performed and samples taken, unless documented on a laboratory sheet; and notation of any notification or reporting completed in accordance with Rule 62-602.650(3), F.A.C. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed.

[62-620.350, 62-602.650]

VI SCHEDULES

1. The following improvement actions shall be completed according to the following schedule:

Improvement Action	Completion Date
1. Submit to the Department a permit revision including a Groundwater Monitoring Plan for expanding the Part III Reuse system.	As part of the reuse expansion.

[62-620.320(6)]

2. If the permittee wishes to continue operation of this wastewater facility after the expiration date of this permit, the permittee shall submit an application for renewal no later than one-hundred and eighty days (180) prior to the expiration date of this permit. Application shall be made using the appropriate forms listed in Rule 62-620.910, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C. Please note, effluent testing shall be conducted for each outfall in accordance with the instructions provided in Sections 3.A.12., 13., and 14. of the application form. A minimum of three samples shall be taken within four and one-half years prior to the date of the permit application and must be representative of the seasonal variation in the discharge from each outfall. *[62-620.335(1) and (2)]*

VII INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

1. The permittee shall function as the Control Authority and shall be responsible for the performance of all pretreatment program requirements contained in Chapter 62-625, F.A.C. The permittee shall be subject to enforcement actions, penalties, and other remedies by the Department or other appropriate parties. The permittee shall implement and enforce its Approved Pretreatment Program. The permittee's Approved Pretreatment Program is hereby made an enforceable condition of this permit. The Department may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements. *[62-625.500]*

2. The permittee shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Act. The permittee shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of new industrial users, upon commencement of the discharge. *[62-625.410]*

3. The permittee shall perform the pretreatment functions as required in Chapter 62-625, F.A.C., including, but not limited to, the following:

   a. Implementing the necessary legal authorities as provided in Rule 62-625.500(2)(a), F.A.C. This includes, among other things, the authority to require compliance with applicable pretreatment standards, which includes general prohibitions listed in Rule 62-625.400(1), F.A.C., specific prohibitions in Rule 62-625.400(2), F.A.C., locally developed limits as required by Rules 62-625.400(3) and (4), F.A.C., and national categorical limits in accordance with Rule 62-625.410, F.A.C.;

   b. Implementing the programmatic functions as required under Rule 62-625.500(2)(b), F.A.C.;

c. Providing the required funding, equipment, and personnel to implement the pretreatment program as provided in Rules 62-625.500(2), (3), and (4)., F.A.C.; and

d. Providing a written technical evaluation that local limits have been developed in accordance with Rule 62-625.400(3)(a), F.A.C. The evaluation shall verify whether existing local limits protect the wastewater facilities, and if not, the permittee shall develop new local limits as part of the evaluation. The permittee shall continue to develop these limits as necessary and effectively enforce such limits.

[62-625.400 and .500]

4. As required by Rules 62-625.600(8) and (12), F.A.C., the permittee shall submit a signed copy of the annual report for pretreatment activities, including DMRs for Monitoring Site Numbers PRT-I, PRT-E, and PRT-R, to the Department at the following address:

Florida Department of Environmental Protection
Domestic Wastewater Section, Mail Station 3540
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

The annual report shall contain the information required in accordance with Rule 62-625.600(8), F.A.C., except section (8)(e) as noted below, and shall describe the permittee's pretreatment activities for the reporting year. In the event that the permittee is not in compliance with any conditions or requirements of the pretreatment program, then the permittee shall also include the reasons for noncompliance and state how and when the permittee shall comply with such conditions and requirements.

In order to comply with Rule 62-625.600(8)(e), F.A.C., the permittee shall submit annual DMRs with the analytical results of influent, effluent, and residuals for those pollutants listed on the DMRs. For any other nonpriority pollutants which the permittee believes may be causing or contributing to interference, pass through, or adversely impacting residuals quality, the annual report shall provide a summary of all analytical results of influent, effluent, and residuals. The annual report and DMRs are due on November 1 of each year. *[62-625.600(12)]*

5. Samples for Monitoring Site Numbers PRT-I, PRT-E, and PRT-R shall be taken at the monitoring site locations described below:

Monitoring Location Site Number	Description of Monitoring Location
PRT-I	Junction chamber No. 1
PRT-E	Final effluent after dechlorination
PRT-R	De-watered sludge cake, prior to pelletization or land application.

VIII OTHER SPECIFIC CONDITIONS

1. In the event that the treatment facilities or equipment no longer function as intended, are no longer safe in terms of public health and safety, or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by Rule 62-600.400(2)(a), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of residuals shall not cause a violation of the odor prohibition in Rule 62-296.320(2), F.A.C. *[62-600.410(8) and 62-640.400(6)]*

2. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(3)]*

3. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550] [62-620.610(20)]*

4. The operating authority of a collection/transmission system and the permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment or which contain materials or pollutants (other than normal domestic wastewater constituents):

   a. Which may cause fire or explosion hazards; or

   b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

   c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

   d. Which result in the wastewater temperature at the introduction of the treatment plant exceeding 40°C or otherwise inhibiting treatment; or

   e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health and safety problems.

   [62-604.130(5)]

5. The treatment facility, storage ponds for Part II systems, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-600.400(2)(b)]*

6. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701.300(1)(a)]*

7. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

8. The permittee shall provide verbal notice to the Department's Southwest District Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, wastewater residuals (sludges), or reclaimed water. The permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department's Southwest District Office in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

IX GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications, or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in Subsection 403.087(6), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

   a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

   b. Have access to and copy any records that shall be kept under the conditions of this permit;

   c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

   d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

   [62-620.610(9)]

10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    [62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-601, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

    c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

[62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department's Southwest District Office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

    a. The following shall be included as information which must be reported within 24 hours under this condition:
        (1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
        (2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
        (3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
        (4) Any unauthorized discharge to surface or ground waters.

    b. Oral reports as required by this subsection shall be provided as follows:
        (1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the **STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519**, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Warning Point:
            (a) Name, address, and telephone number of person reporting;
            (b) Name, address, and telephone number of permittee or responsible person for the discharge;
            (c) Date and time of the discharge and status of discharge (ongoing or ceased);
            (d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
            (e) Estimated amount of the discharge;
            (f) Location or address of the discharge;
            (g) Source and cause of the discharge;
            (h) Whether the discharge was contained on-site, and cleanup actions taken to date;
            (i) Description of area affected by the discharge, including name of water body affected, if any; and
            (j) Other persons or agencies contacted.
        (2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Southwest District Office within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Southwest District Office shall waive the written report.

[62-620.610(20)]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX.17., IX.18., or IX.19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20. of this permit. *[62-620.610(21)]*

22. Bypass Provisions

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:
(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(3) The permittee submitted notices as required under Permit Condition IX.22.b. of this permit.

c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX.20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX.22.a.1. through 3. of this permit.

e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX.22.a. through c. of this permit.

[62-620.610(22)]

23. Upset Provisions

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.
(1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.
(2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
(1) An upset occurred and that the permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in Permit Condition IX.20. of this permit; and
(4) The permittee complied with any remedial measures required under Permit Condition IX.5. of this permit.

c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

MMcDonald

Mauryn McDonald, P.E.
Water Facilities Program Administrator
Southwest District

ARCADIS

Appendix B

Flow Meter Calibration Record Sheets

PREVENTIVE MAINTENANCE PLANT TEAM

WO# : 597018 **MAIN PUMP STATION, FLOW RECORDER/TOTALIZER PLANT FLOW**

COMPLETED MAR 2 2015

Description: **010 DEP PERMIT QUARTERLY TOTALIZER CK THRU SCADA PM**
Building: **MAIN PUMP ST/**
Work Type: **53PM**
Status: **Open**
Requested By: **SCHEDULE**
Date Added: **02/24/2015 2:10:04 PM**
Skill: **INST-LVL-3**
Reference
Schedule: **FR208-010-01-S44**

Assigned To: **Striker, Joseph**
Shift:
Criticality: **40.00**
Date Scheduled: **03/26/2015 12:00:01 AM**
Supervisor: **Birchmire, Richard**
Craft:
QA Completed By: [illegible]
Planner:

Asset/Procedure Combinations

Asset: **FRS-000001** **FLOW RECORDER**

Location: **FR208-010-01** **MAIN PUMP STATION, FLOW RECORDER/TOTALIZER PLANT FLOW**

Procedure: **FR208-010-01-P44** **010 DEP PERMIT QUARTERLY TOTALIZER CK THRU SCADA**

Warranty Coverage: **No** Perform While Asset Running: **No** Perform While Asset Down: **Yes**

Site Comments: FOLLOW ESTABLISHED SAFETY PROCEDURES (SEE SHARE DRIVE K:\Safety)

Crafts	Employee ID	Employee Name	Est. Hours	Reg Hrs.	OT Hrs.	Date
INST-03	[redacted]		1.00	1.0		3-2075
		Estimated Hours Total:	**1.00**	1.0		3-2075
				1.0		3-2075

Tasks	Description	Est Down Hours	Safety	Date Completed
FR208-010-01-T34	DEP PERMIT PT NO MPSFI500 Q TOTALIZER CHECK	0.50		

Details: ALL INSTRUMENTS MUST BE CALABRATED WITHIN ±10% OF THE ACTUAL VALUE.

1___ INSTRUMENTATION QUARTERLY DEP CHECKS THRU SCADA.
2___CALL PROCESS AND BEFORE CAL TO TURN POINT OFF HISTORY.
3___CALL PROCESS TO GET BEFORE CAL SCADA READING.
4___APPLY 4 MA TO MRC'S 1, 2 & 4 AND RECORD TOTALIZER READINGS.
5___APPLY 20 MA TO MRC'S 1, 2 & 4 & RECORD TOTALIZER READINGS.
6___RESET COUNTS ON FLOW CAL PAGE.
7___APPLY 12 MA TO MRC'S 1, 2 & 4 RECORD READINGS, THEN BEGIN COUNT.
8___WAIT 15 MINUTES RECORD COUNTS AFTER READINGS.
9___VERIFY COUNTS ±10% OF EXPECTED-1.354 mgd
10__RETURN EQUIPMENT TO OPERATIONAL CONDTIONS.
11__CALL PROCESS TO GET AFTER CAL SCADA READING.
12__CALL PROCESS AFTER CAL TO TURN POINT BACK ON HISTORY.

AFTER COMPLETED THIS WORK ORDER PLEASE HAND DELIVER TO LIQUIDS PLANNER/SCHEDULERS.

RECORD ALL READINGS BELOW (15 MINUTE COUNT)

SCADA BEFORE 55.78 SCADA AFTER 58.89

PANEL BEFORE 54.61 PANEL METER AFTER 57.78

CHART BEFORE ——— STRIP CHART AFTER ———

TOTAL READING BEFORE 0 TOTAL READINGS AFTER 1.36

MRC 1, 2 & 4 TOTALIZER READINGS AFTER APPLY CURRENT: 1.36
4 MA 1.69
12MA 130.7
20MA 259.4

PREVENTIVE MAINTENANCE PLANT TEAM

WO# : 596828 METERVAULT 2, METER-MAG FLOW MV-2 MRC-1

Description: **007 MV-2 MRC-1 MAG MTR QUARTERLY DEP-99 PERMIT CK**
Building: **METERVAULT 2,**
Work Type: **53PM**
Status: **Open**
Requested By: **SCHEDULE**
Date Added: **02/24/2015 1:17:53 PM**
Skill: **INST-LVL-3**
Reference
Schedule: **MET036-007-01-S44**

Assigned To: **Striker, Joseph**
Shift:
Criticality: **90.00**
Date Scheduled: **03/16/2015 12:00:01 AM**
Supervisor: **Birchmire, Richard**
Craft:
QA Completed By: WM
Planner:

Asset/Procedure Combinations

Asset: **MET-000004** **METER-MAG FLOW MV-2 MRC-1**
Location: **MET036-007-01** **METERVAULT 2, METER-MAG FLOW MV-2 MRC-1**
Procedure: **MET036-007-01-P44** **007 DEP PERMIT FL0020940 QTRLY MTR AND LOOP CK THRU SCADA**

Warranty Coverage: **No** Perform While Asset Running: **No** Perform While Asset Down: **Yes**

Site Comments: FOLLOW ESTABLISHED SAFETY PROCEDURES (SEE SHARE DRIVE K:\Safety)

Crafts	Employee ID	Employee Name	Est. Hours	Reg Hrs.	OT Hrs.	Date
INST-03			0.50			
	[redacted]	**Estimated Hours Total:**	**0.50**	1.0 1.0		3-20-15 3-20-15

Tasks	Description	Est Down Hours	Safety	Date Completed
MET036-007-01-T34	DEP PERMIT PN MPSFI515 Q MTR LOOP CK THRU SCADA	0.50		

Details:

RECORD ALL READINGS BELOW

SCADA BEFORE 25.77 SCADA AFTER 30.05

LOCAL INDICATION BEFORE 26.29 LOCAL INDICATION AFTER 29.95

4MA 0 BEFORE CAL 4MA AFTER CAL 0
12MA 95.2 BEFORE CAL 12MA AFTER CAL 95.67
20MA 95.0 BEFORE CAL 20MA AFTER CAL 95.05
TOTAL BEFORE 15MIN CK 0 TOTAL AFTER 15MIN CK 1.36

Total Est. Down Hours: **0.50**

Technician Comments:

Technician Signature: **Truck #** **Generator #**

Labor	Part Cost	Misc Cost	Total Cost
$0.00	**$0.00**	**$0.00**	**$0.00**

Completion Information:

Date Completed:	Grand Total Downtime:
Current Meter:	Supervisor:
Current Count:	Shifts:
Reading As Found:	Code:
Reading As Left:	Code Value:

PREVENTIVE MAINTENANCE PLANT TEAM

WO# : 596829 METERVAULT 2, METER-MAG FLOW MV-2 MRC-2

Description: **007 MV-2 MRC-2 MAG MTR QUARTERLY DEP-99 PERMIT CK**
Building: **METERVAULT 2,**
Work Type: **53PM**
Status: **Open**
Requested By: **SCHEDULE**
Date Added: **02/24/2015 1:17:53 PM**
Skill: **INST-LVL-3**
Reference
Schedule: **MET036-007-02-S44**

Assigned To: **Striker, Joseph**
Shift:
Criticality: **90.00**
Date Scheduled: **03/16/2015 12:00:01 AM**
Supervisor: **Birchmire, Richard**
Craft:
QA Completed By: N
Planner:

Asset/Procedure Combinations

Asset: **MET-000005** **METER-MAG FLOW MV-2 MRC-2**
Location: **MET036-007-02** **METERVAULT 2, METER-MAG FLOW MV-2 MRC-2**
Procedure: **MET036-007-02-P44** **007 DEP PERMIT FL0020940 QTRLY MTR AND LOOP CK THRU SCADA**

Warranty Coverage: **No** Perform While Asset Running: **No** Perform While Asset Down: **Yes**

Site Comments: FOLLOW ESTABLISHED SAFETY PROCEDURES (SEE SHARE DRIVE K:\Safety)

Crafts	Employee ID	Employee Name	Est. Hours	Reg Hrs.	OT Hrs.	Date
INST-03	[redacted]		0.50	1.0		3-20-15
		Estimated Hours Total:	**0.50**	1.0		3-20-15

5 2134

Tasks	Description	Est Down Hours	Safety	Date Completed
MET036-007-02-T34	DEP PERMIT PN MPSFI650 Q MTR LOOP CK THRU SCADA	0.50		

Details: ALL INSTRUMENTS MUST BE WITHIN 10 % OF ACTUAL

1___INSTRUMENTATION QUARTERLY DEP CHECKS THRU SCADA
2___CALL PROCESS BEFORE CAL TO TURN POINT OFF HISTORY
3___CALL PROCESS TO GET BEFORE CAL SCADA READING
4___PERFORM CAL PROCEDURE PER MANUFACTURERS PROCEDURE
5___PERFORM LOOP CHECK FOR 15 MIN AT HALF SCALE FOR TOTAL CHECK THRU SCADA .42MGD ADD TO
6___CALL PROCESS TO GET AFTER CAL SCADA READING
7___CALL PROCESS AFTER CAL TO TURN POINT BACK ON HISTORY

WHEN COMPLETE HAND DELIVER TO LIQUIDS PLANNER/SCHEDULERS

RECORD ALL READINGS BELOW

SCADA BEFORE 28.3 SCADA AFTER 32.10

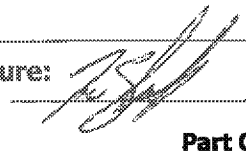
LOCAL INDICATION BEFORE 28.1 LOCAL INDICATION AFTER 32.41

4MA 0 BEFORE CAL
12MA 40.04 BEFORE CAL
20MA 79.68 BEFORE CAL
TOTAL BEFORE 15MIN CK 0

4MA AFTER CAL .26
12MA AFTER CAL 39.98
20MA AFTER CAL 79.70
TOTAL AFTER 15MIN CK .42

Total Est. Down Hours: **0.50**

Technician Comments:

Technician Signature:  **Truck #** **Generator #**

Labor	Part Cost	Misc Cost	Total Cost
$0.00	$0.00	$0.00	$0.00

Completion Information:

Date Completed:
Current Meter:
Current Count:
Reading As Found:
Reading As Left:

Grand Total Downtime:
Supervisor:
Shifts:
Code:
Code Value:

PREVENTIVE MAINTENANCE PLANT TEAM

WO# : 596830 METERVAULT 2, METER-MAG FLOW MV-2 MRC-4

Description: **007 MV-2 MRC-4 MAG MTR QUARTERLY DEP-99 PERMIT CK**
Building: **METERVAULT 2,**
Work Type: **53PM**
Status: **Open**
Requested By: **SCHEDULE**
Date Added: **02/24/2015 1:17:53 PM**
Skill: **INST-LVL-3**
Reference
Schedule: **MET036-007-04-S44**

Assigned To: **Striker, Joseph**
Shift:
Criticality: **90.00**
Date Scheduled: **03/16/2015 12:00:01 AM**
Supervisor: **Birchmire, Richard**
Craft:
QA Completed By:
Planner:

Asset/Procedure Combinations

Asset: **MET-000006** **METER-MAG FLOW MV-2 MRC-4**
Location: **MET036-007-04** **METERVAULT 2, METER-MAG FLOW MV-2 MRC-4**
Procedure: **MET036-007-04-P44** **007 DEP PERMIT FL0020940 QTRLY MTR AND LOOP CK THRU SCADA**

Warranty Coverage: **No** Perform While Asset Running: **No** Perform While Asset Down: **Yes**

Site Comments: FOLLOW ESTABLISHED SAFETY PROCEDURES (SEE SHARE DRIVE K:\Safety)

Crafts	Employee ID	Employee Name	Est. Hours	Reg Hrs.	OT Hrs.	Date
INST-03	[redacted]		0.50	1.0		3-20-15
	52134	**Estimated Hours Total:**	**0.50**	1.0		3-20-15

Tasks	Description	Est Down Hours	Safety	Date Completed
MET036-007-04-T34	DEP PT NO MPSFI520 Q MTR AND LOOP CK THRU SCADA	0.50		

Details: ALL INSTRUMENTS MUST BE WITHIN 10 % OF ACTUAL

1___INSTRUMENTATION QUARTERLY DEP CHECKS THRU SCADA
2___CALL PROCESS BEFORE CAL TO TURN POINT OFF HISTORY
3___CALL PROCESS TO GET BEFORE CAL SCADA READING
4___PERFORM CAL PROCEDURE PER MANUFACTURERS PROCEDURE
5___PERFORM LOOP CHECK FOR 15 MIN AT HALF SCALE FOR TOTAL CHECK THRU SCADA 0.42 MGD –ADD TO
6___CALL PROCESS TO GET AFTER CAL SCADA READING
7___CALL PROCESS AFTER CAL TO TURN POINT BACK ON HISTORY

WHEN COMPLETE HAND DELIVER TO PLANNER/SCHEDULERS

RECORD ALL READINGS BELOW

SCADA BEFORE Ø SCADA AFTER Ø

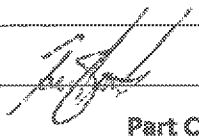
LOCAL INDICATION BEFORE Ø LOCAL INDICATION AFTER Ø

4MA Ø BEFORE CAL 4MA AFTER CAL Ø
12MA 40.07 BEFORE CAL 12MA AFTER CAL 40.05
20MA 80.00 BEFORE CAL 20MA AFTER CAL 80.00
TOTAL BEFORE 15MIN CK Ø TOTAL AFTER 15MIN CK .42

Total Est. Down Hours: **0.50**

PREVENTIVE MAINTENANCE PLANT TEAM

Technician Comments:

Technician Signature:  **Truck #** **Generator #**

Labor	Part Cost	Misc Cost	Total Cost
$0.00	$0.00	$0.00	$0.00

Completion Information:

Date Completed:
Current Meter:
Current Count:
Reading As Found:
Reading As Left:

Grand Total Downtime:
Supervisor:
Shifts:
Code:
Code Value:

PREVENTIVE MAINTENANCE PLANT TEAM

WO# : 596836 **STAR REUSE WATER, STAR EFFLUENT WATER MAG FLOW METER**

Description: **086-EWP- QUARTERLY PM INST INS CHECK DEP-99 PERMIT**
Building: **STAR REUSE W/**
Work Type: **53PM**
Status: **Open**
Requested By: **SCHEDULE**
Date Added: **02/24/2015 1:17:53 PM**
Skill: **INST-LVL-3**
Reference
Schedule: **MET036-086-01S44STAR**

Assigned To: **Striker, Joseph**
Shift:
Criticality: **70.00**
Date Scheduled: **03/18/2015 12:00:01 AM**
Supervisor: **Birchmire, Richard**
Craft:
QA Completed By: W
Planner:

Asset/Procedure Combinations

Asset: **MET-000140** **STAR EFFLUENT WATER MAG FLOW METER**
Location: **MET036-086-01STAR** **STAR REUSE WATER, STAR EFFLUENT WATER MAG FLOW METER**
Procedure: **MET036-086-P01STAR** **086 MET036-086-01 PV /Q PM INSP CHECK DEP PERMIT**

Warranty Coverage: **No** Perform While Asset Running: **No** Perform While Asset Down: **Yes**

Site Comments: FOLLOW ESTABLISHED SAFETY PROCEDURES (SEE SHARE DRIVE K:\Safety)

Crafts	Employee ID	Employee Name	Est. Hours	Reg Hrs.	OT Hrs.	Date
INST-03	[redacted]		1.00	1.0		3/24/15
		Estimated Hours Total:	**1.00**			

Tasks	Description	Est Down Hours	Safety	Date Completed
MET036-086-01T24STAR	DEP PERMIT EWP-MET036-086 Q PM INST INSP CK	1.00		

Details: ALL INSTRUMENTS MUST BE WITHIN 10 % OF ACTUAL

1___-INSTRUMENTATION QUARTERLY DEP CHECKS THRU SCADA
2___- CALL PROCESS BEFORE CAL TO TURN POINT OFF HISTORY
3___- CALL PROCESS TO GET BEFORE CAL SCADA READING
4___- PERFORM CAL PROCEDURE PER MANUFACTURERS PROCEDURE
5___- PERFORM LOOP CHECK FOR 15 MIN AT HALF SCALE FOR TOTAL CHECK THRU SCADA 75,000
(POINT # STRDT100)
6___- CALL PROCESS TO GET AFTER CAL SCADA READING
7___- CALL PROCESS AFTER CAL TO TURN POINT BACK ON HISTORY

WHEN COMPLETE HAND DELIVER TO LIQUIDS PLANNER/SCHEDULERS

RECORD ALL READINGS BELOW

SCADA BEFORE 780 SCADA AFTER 641

LOCAL INDICATION BEFORE 777 LOCAL INDICATION AFTER 635

4MA 0 BEFORE CAL 4MA AFTER CAL 0
12MA 5010 BEFORE CAL 12MA AFTER CAL 5009
20MA 10,000 BEFORE CAL 20MA AFTER CAL 10,000
TOTAL BEFORE 15 MIN 0 TOTAL AFTER 15 MIN 15100

Total Est. Down Hours: **1.00**

PREVENTIVE MAINTENANCE PLANT TEAM

Technician Comments: pm

Technician Signature:  **Truck #** 1219 **Generator #**

Labor	Part Cost	Misc Cost	Total Cost
$0.00	$0.00	$0.00	$0.00

Completion Information:

Date Completed:
Current Meter:
Current Count:
Reading As Found:
Reading As Left:

Grand Total Downtime:
Supervisor:
Shifts:
Code:
Code Value:

ARCADIS

Appendix C

Population Estimate 2005 - 2025

Annual Population Estimates (Adjusted) by Facility Service Area

Potable Water Service Area Collection

Year	Population Projection	Population Estimate	Actual to Projected Rate of Growth	FY2011 Adjusted Population Projections
2005	550,634			
2006	558,384	--	--	
2007	566,134	--	--	
2008	573,885	--	--	
2009	581,635	567,010	97.49%	
2010	589,385	572,260	97.09%	
2011	596,849			579,508
2012	604,314			586,755
2013	611,778			594,003
2014	619,243			601,250
2015	626,707			608,498
2016	634,779			616,335
2017	642,851			624,172
2018	650,922			632,009
2019	658,994			639,847
2020	667,066			647,684
2021	675,138			655,521
2022	683,210			663,358
2023	691,281			671,196
2024	699,353			679,033
2025	707,425			686,870

Wastewater Service Area Collection

Year	Population Projection	Population Estimate	Actual to Projected Rate of Growth	FY2011 Adjusted Population Projections
2005	493,520			
2006	500,707	--	--	
2007	507,894	--	--	
2008	515,082	--	--	
2009	522,269	524,780	100.48%	
2010	529,456	527,100	99.56%	527,100
2011	536,331			533,944
2012	543,206			540,788
2013	550,080			547,633
2014	556,955			554,477
2015	563,830			561,321
2016	571,301			568,759
2017	578,772			576,196
2018	586,242			583,634
2019	593,713			591,071
2020	601,184			598,509
2021	608,655			605,946
2022	616,125			613,384
2023	623,596			620,821
2024	631,066			628,258
2025	638,537			635,696

Notes

Population Projections (column 2) for 2005, 2010, 2020 and 2015 are from the 2009 Tampa Comprehensive Plan. .
Annual population projections are estimated by interpolating between the benchmark years
Population Estimates (column 3) are derived the annual Population and Housing Estimates produced by The Planning Commission.

FILE COPY

CITY OF TAMPA

Pam Iorio, Mayor

Office of the City Attorney
Chip Fletcher
City Attorney

October 6, 2008

Elita Cobbs McMillon
Assistant General Counsel
Hillsborough County Aviation Authority
P.O. Box 22287
Tampa, FL 33622

Re: Agreement between the City of Tampa and the Hillsborough County Aviation Authority for the Delivery and Use of Reclaimed Water

Dear Elita,

Enclosed is one fully executed original of the above referenced agreement. The agreement was passed by City Council on September 18, 2008, by Resolution 2008-1001, a copy of which is also attached. Please call me at 274-8412 if you have any questions. Thank you.

Sincerely,

Sabrina Fernandez,
Legal Assistant to Jan McLean and
Cathy Ginster

cc: Brad Baird, Water Department Director
Sandra Anderson, Reclaimed Water and Continuous Improvement Manager
File/Jan McLean, Assistant City Attorney

RESOLUTION NO. 2008 - 1001

A RESOLUTION APPROVING AN AGREEMENT BETWEEN THE CITY OF TAMPA AND HILLSBOROUGH COUNTY AVIATION AUTHORITY FOR THE DELIVERY AND USE OF RECLAIMED WATER; AUTHORIZING EXECUTION THEREOF BY THE MAYOR OF THE CITY OF TAMPA; PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Tampa (City) and the Hillsborough County Aviation Authority (HCAA) wish to enter into an Agreement for the construction, by the City, of reclaimed water distribution facilities to a point of connection at HCAA property (Project), and delivery by the City of reclaimed water to HCAA for use on HCAA's property; and

WHEREAS, the City will design and construct the reclaimed water pipeline that will include a point of connection for HCAA to connect its internal irrigation system to the City's reclaimed water system; and

WHEREAS, the Agreement includes the estimated cost of the Project, and the identification of joint participation in the cost of the Project by the Parties, and provisions under which the City will provide reclaimed water to the HCAA; and

WHEREAS, the Parties acknowledge that contracts for the design and construction of the Project will require Council approval, and the Resolutions approving those contracts will appropriate receipt of the HCAA's contribution at that time; and

WHEREAS, the Parties recognize that the execution of the Agreement and the implementation of the Project is in the best interests of the citizens of the City and the HCAA.

NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TAMPA, FLORIDA:

Section 1. The Agreement between the City of Tampa and the Hillsborough County Aviation Authority for the Delivery and Use of Reclaimed Water, attached hereto and incorporated herein or in substantially similar form, is approved by this Resolution.

Section 2. That the proper officers of the City of Tampa are authorized and directed to do all things necessary and proper in order to carry out and make effective the provisions of this Resolution.

PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF TAMPA, FLORIDA, ON SEP 18 2008.

B2008-15

ATTEST:

CLERK/~~DEPUTY CITY CLERK~~

CHAIRMAN/~~CHAIRMAN PRO TEM~~, CITY COUNCIL

APPROVED AS TO LEGAL SUFFICIENCY:

JANICE M. MCLEAN
ASSISTANT CITY ATTORNEY

AGREEMENT BETWEEN THE CITY OF TAMPA AND HILLSBOROUGH COUNTY AVIATION AUTHORITY FOR THE DELIVERY AND USE OF RECLAIMED WATER

THIS AGREEMENT is made and entered on the 29th day of September, 2008, between the CITY OF TAMPA, FLORIDA, a municipal corporation organized and existing under the laws of the State of Florida, hereinafter referred to as "City", and Hillsborough County Aviation Authority, a public body corporate under the laws of the state of Florida, hereinafter referred to as "HCAA". The City and HCAA are collectively referred to herein as "Parties."

BASIS FOR AGREEMENT

The City and HCAA wish to enter into this Agreement for the construction, by the City, of reclaimed water distribution facilities, to a point of connection at HCAA property (Project), and delivery by the City of reclaimed water to HCAA for use on HCAA's property, which is identified in Exhibit "A", attached hereto and made an integral part of this Agreement. It is the intent of both Parties through this Agreement to identify the rights and obligations of each under the terms and conditions of this Agreement.

DEFINITIONS

The following will have the meaning as identified for the purposes of this Agreement. For the purposes of this Agreement, any costs identified to be funded by the HCAA must be for the performance of work by a consultant or contractor retained by the City for this Project.

1. Project Costs: The actual costs incurred by the City in constructing the facilities to deliver reclaimed water to the HCAA, including planning, design, permitting and construction.

2. Design Services: Includes the costs by a City retained consultant or contractor to bring the Project to construction, to include surveys, project design, and permitting. The City reserves the right to either contract design services to a third party, or to design the Project with City staff.

3. Project Management Costs: Includes the cost of project management and oversight by a City retained consultant or contractor to the Project.

4. Construction: Includes the cost to furnish and install all necessary reclaimed water facilities to the HCAA point of connection.

5. Construction Engineering & Inspection (CEI): Costs include inspecting the construction activities of the construction firm, and all other activities required to obtain final permits, and to close out the Project by a City retained consultant or contractor for this Project.

6. Scope of Work & Estimate of Costs: Explanation of proposed Project and Estimated Costs identified as Exhibit "B-1" and Exhibit "B-2".

TERMS AND CONDITIONS

In consideration of the commitment of the City to construct reclaim water facilities and deliver reclaimed water to HCAA, and the commitment of HCAA to purchase and use reclaimed water in, or for any other acceptable purposes consistent with all applicable federal, state, and local regulations, the Parties agree to the following terms and conditions.

1. Term of the Agreement

This Agreement will be effective upon execution by both Parties and will continue for the term of twenty (20) years from the date of execution of this Agreement.

2. Point of Connection and Quantity of Reclaimed Water

a. The City shall complete construction of the Project no later than January 15, 2010.

b. HCAA will take the initial delivery of reclaimed water from the City at the point of connection identified on Exhibit "A", no later than 60 days after the City completes the Project. The point of connection shall be metered and shall denote the quantity of water that HCAA shall be billed.

c. The HCAA shall use no less than 110,000 CCFs reclaimed water annually for ten (10) years from the first day of receiving reclaimed water delivered by the City to the point of connection for HCAA. For the remainder of the term of the Agreement, the HCAA shall use no less than 75,000 CCFs reclaimed water annually. To the extent the HCAA is unable to use the minimum quantities of reclaimed water required in this paragraph, due to City initiated interruption or discontinuance of reclaimed water service, or reclaimed water use restrictions imposed by the City for thirty (30) days or longer, the minimum amounts shall be prorated accordingly. If the HCAA is unable to use the minimum quantity required in this paragraph due to the imposition of water shortage restrictions by the Southwest Florida Water Management District, or the enactment of new regulations by federal, state, or regional government, then the minimum requirement is waived until the restriction is rescinded

3. Reclaimed Water Rate

a. The HCAA shall pay to the City the prevailing rate approved by City Council in effect for all reclaimed water, not to exceed $1.20 per CCF for ten (10) years from the first day of receiving reclaimed water delivered by the City to the point of connection for HCAA. HCAA shall then pay the prevailing rate for reclaimed water for the remainder of this Agreement.

b. The total cost of the Project paid by the HCAA to the City, excluding the cost of the meter, shall be established as an account by the City Utility Accounting Department, and from that balance of the account will be deducted the costs of reclaimed water used by the HCAA on a monthly basis. This account will remain for such time as required for the balance to reach zero or twenty (20) years whichever occurs first, from the first date that the City delivers reclaimed water to the HCAA.

4. Financial Considerations

a. "Project Costs" are as defined above and will not exceed those identified in Exhibit "B-1".

b. When the City issues a Notice to Proceed to either the design contractor or the construction contractor, the HCAA shall be responsible for the corresponding Project Costs.

c. The HCAA shall remit to the City no later than ten (10) days after receipt from City of copy of City contractor invoice, the total amount of eligible Project Costs of invoice. This amount will not accrue interest.

d. The City shall maintain accurate financial records of all deposits, disbursements, and credits made in regard to this Agreement, and provide copies of such records to the HCAA upon request with reasonable notice. Within thirty (30) days of completion of construction of the Project, the City shall provide to the HCAA an accounting of all Project costs, and remit any unspent funds on deposit with the City.

5. Permits

a. The City shall apply for and acquire all permits necessary to complete the Project. The Parties shall cooperate and assist in obtaining all permits necessary for the Project.

b. HCAA shall apply for and acquire all permits necessary to connect to the reclaimed water system.

6. Delivery and Use Conditions

a. The City will use its best efforts to deliver the reclaimed water pursuant to the terms and conditions of this Agreement. However, the City reserves the right to temporarily interrupt, or if necessary, to protect the public health and safety, discontinue service to HCAA as determined necessary by the City's Administrator of Public Works and Utilities or his designee, in order to preserve public health or for necessary maintenance. Notwithstanding the foregoing, the City shall have the right, at all times, to refuse to provide, or to discontinue the provision of reclaimed water service, should such service be contrary to the health and safety of the public. Such interruption or discontinuance will be accomplished with the provision of notice as appropriate under the existing circumstances.

b. The Parties agree that in the event that the City determines the necessity to temporarily interrupt reclaimed water service to the HCAA, the HCAA may utilize its ground water wells for the duration of the interruption, but that upon reinstatement of the reclaimed water service to the HCAA, the HCAA will take the reclaimed water and use it in lieu of groundwater wells.

c. The City agrees to cooperate with the HCAA in the modification to its water use permit(s), to reflect the use of the City's reclaimed water, and to identify the use of the HCAA groundwater for the stated purpose in paragraph b. above.

d. HCAA will use the reclaimed water for irrigation and any other acceptable use as allowed by law. HCAA will not allow the discharge of any reclaimed water from its property into the City stormwater system or offsite of its property.

e. HCAA shall own and be responsible for the installation, operation, and maintenance of its irrigation system on its property.

f. The City shall own and be responsible to maintain the transmission system to the point of connection at HCAA's property line as well as the meter. If any portion of the system prior to the point of connection is constructed on HCAA property, the HCAA shall take all actions and execute all documents necessary to transfer ownership of the facilities to the City, with an easement for access granted by the HCAA to the City to operate and maintain those facilities. The HCAA will not require payment from the City for any easement necessary under the aforementioned circumstances facilities that exclusively serve the HCAA.

g. The use of reclaimed water by HCAA shall be in accordance with any applicable restrictions set forth in the City's water shortage restrictions.

h. The City's consultant has prepared a Basis of Design Report (BODR) for the Project. The BODR recommends the installation of a fourteen (14) inch diameter pipe to serve HCAA's reclaimed water uses: 1) Existing Cooling Towers, 2) Existing Irrigation Ponds, 3) Future Cooling Towers, and 4) Future Irrigation Ponds.

i. The City shall oversize the required fourteen (14) inch diameter reclaimed water transmission pipeline, as indicated in Exhibit "B", to serve non-HCAA reclaimed water customers. The City shall not charge HCAA the incremental cost of oversizing the transmission pipeline.

7. Responsibilities of the Parties

The City and HCAA will act as expeditiously as possible to complete all necessary construction of their respective transmission systems.

HCAA

a. Will allow the City's contractors access to the property

b. Will review with the City the design drawings at 30%, 60%, and 90% completion

c. Will be responsible for actions and all corresponding costs required to connect to the reclaimed water system, to include but not limited to, the installation of the backflow-preventers, meter, and obtaining plumbing permits

d. Will construct, operate, and maintain its system and facilities as well as use the reclaimed water in accordance with all applicable federal state, regional, and local regulations and requirements

City

a. Will design, construct, and inspect the Project

b. Will provide both Project and financial updates to the HCAA as indicated herein

c. Will deliver reclaimed water to the HCAA in accordance with the terms and conditions contained herein

8. Inspection

The Parties agree that upon commencement of the delivery of the reclaimed water to HCAA, the City shall have the right, after reasonable notice to HCAA, to enter upon the property to inspect HCAA's operating practices as they relate to this Agreement. Such site visits will be in accordance with all appropriate security requirements. If necessary, the Parties intend to enter into a separate document reflecting this right of access be granted to the City for these purposes.

9. Transfer and Assignment

Neither the City nor HCAA may transfer or assign any of the respective rights or obligations to another entity without written notice, to and approval by, the other.

10. Expansion, Relocation or Abandonment of the Facilities

If the HCAA wishes to modify, expand, extend, or abandon any portion or all of the distribution system within its property, the HCAA shall notify the City of its intention, and the schedule for such activities. If such activities will require the quantity of reclaimed water to modified, the Parties shall agree to such modification in writing prior to the initiation of such activities.

11. Indemnification

The Parties agree to the extent allowed by law and subject to the limitations of liability found at Section 768.28, Florida Statutes, to indemnify and hold harmless each other from any claims, actions, causes of action, suits in equity, demands, judgments, liabilities, losses, suits, interests, fines, penalties, damages, losses of use, costs, or expenses, including reasonable attorney's fees, brought or made for or on account of any injuries or damages received or sustained by any person or property, arising out of, occasioned by, or in connection with this Agreement.

12. Third Party Beneficiaries

This Agreement is solely for the benefit of the Parties hereto, and no right, or obligation, or cause of action shall accrue upon, to or for, the benefit of any third party not a party hereto.

13. Severability

If any part of this Agreement is found to be invalid or unenforceable by any court of competent jurisdiction, such invalidity or unenforceability shall not affect the other parts of this Agreement, if the rights and obligations of the Parties contained herein are not materially prejudiced, and if the intentions of the Parties can continue to be effected. To that end, this Agreement is declared severable.

14. Non-Waiver

The failure of either party to insist upon the other party's compliance with its obligations under this Agreement in any one or more instances shall not operate to release the other party from its duties to comply with such obligations in all other instances.

15. Applicable Law and Venue

This Agreement and the provisions contained herein shall be construed, controlled and interpreted according to the laws of the State of Florida. Venue for any litigation between the Parties shall be in the courts of Hillsborough County, Florida.

16. Amendment

This Agreement shall be construed as the entire Agreement, with Exhibits, between the Parties and no other written or verbal communication shall be construed to be a part of this Agreement. Any amendment to this Agreement must be in writing and approved by the governing body of each of the Parties.

17. Notices

All notices required or authorized under this Agreement shall be given in writing, and shall be served by certified first class mail or hand delivery to the parties at the address listed below:

City: Brad L. Baird, P.E. Director, City of Tampa Water Department
306 E. Jackson Street, Tampa, Florida 33602

HCAA: Louis E. Miller, Executive Director
Hillsborough County Aviation Authority
P.O. Box 22287, Tampa, Florida 33622

18. Exhibits

This Agreement incorporates the following exhibits, which are attached and specially made an integral part hereto.

Exhibit "A"	Map/Aerial of HCAA Property with Point of Connection
Exhibits "B-1" & "B-2"	Scope of Work and Estimate of Costs for Project

THIS WRITTEN AGREEMENT constitutes the entire Agreement between the arties, and has been entered into voluntarily and with independent advice and legal counsel; and has been executed by the authorized representative of each party on the date written above.

WITNESS:

HILLSBOROUGH COUNTY AVIATION AUTHORITY

By: _____ Date: 8/7/08

Approved as to Form:

Attorney for Hillsborough County
Aviation Authority

ATTEST:

City Clerk ~~Deputy Clerk~~

CITY OF TAMPA

Pam Iorio, Mayor

Date: 9-29-08

Approved as to Form:

Janice M. McLean,
Assistant City Attorney

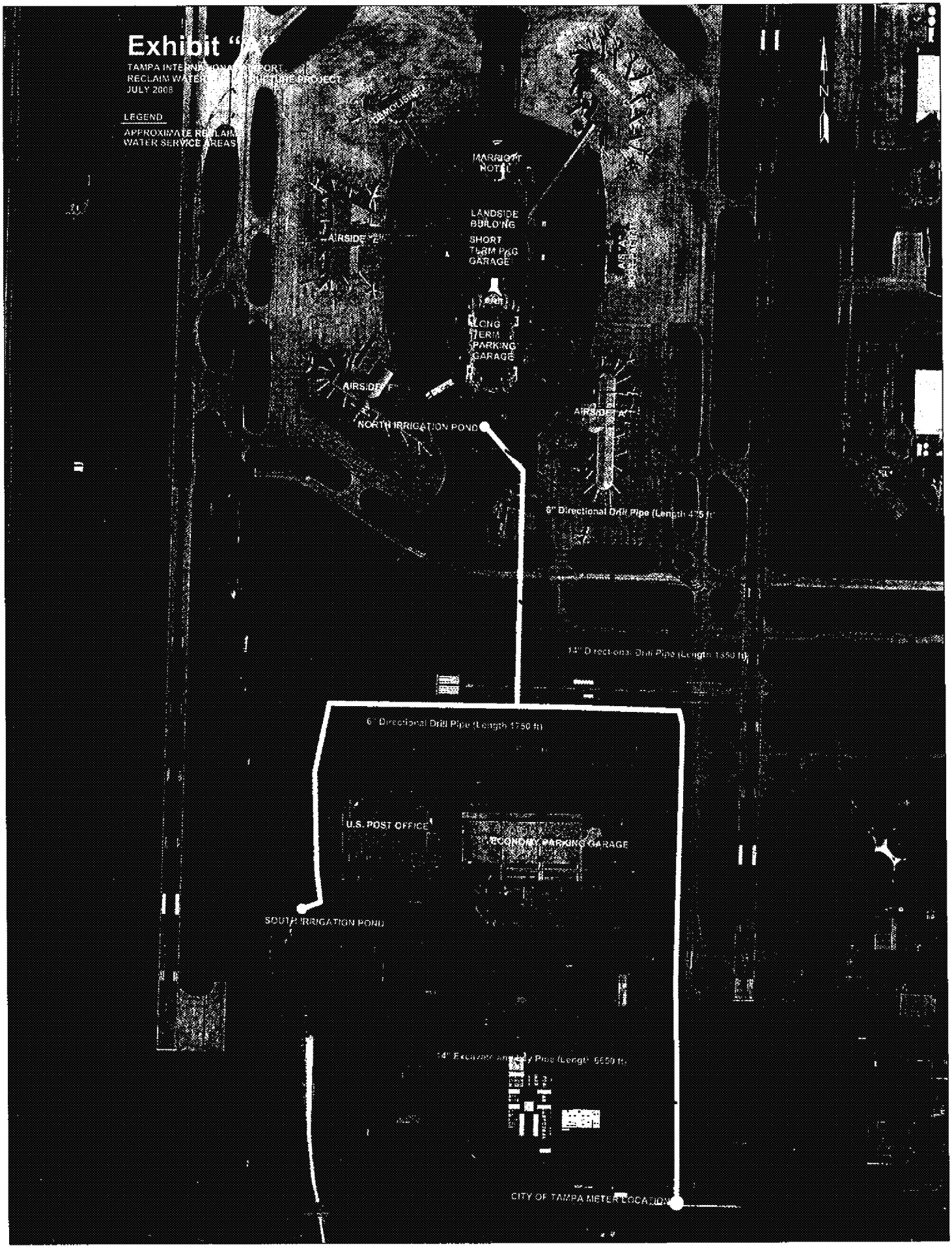


Exhibit "A"
TAMPA INTERNATIONAL AIRPORT
RECLAIM WATER INFRASTRUCTURE PROJECT
JULY 2008
LEGEND
APPROXIMATE RECLAIM WATER SERVICE AREAS
DEMOLISHED
MARRIOTT HOTEL
LANDSIDE BUILDING
SHORT TERM P&G GARAGE
LONG TERM PARKING GARAGE
AIRSIDE "F"
AIRSIDE "A"
NORTH IRRIGATION POND
8" Directional Drill Pipe (Length 4750 ft)
14" Directional Drill Pipe (Length 1350 ft)
8" Directional Drill Pipe (Length 1750 ft)
U.S. POST OFFICE
ECONOMY PARKING GARAGE
SOUTH IRRIGATION POND
14" Excavate and Lay Pipe (Length 5650 ft)
CITY OF TAMPA METER LOCATION
N

AGREEMENT BETWEEN THE CITY OF TAMPA
AND
HILLSBOROUGH COUNTY AVIATION AUTHORITY
FOR THE DELIVERY AND USE OF RECLAIMED WATER

Exhibit B-1
Scope of Work and Estimate of Costs

Scope of Work:
The Tampa Water Department will oversee the design and construction of a reclaimed water pipeline that will include a point of connection for the Hillsborough County Aviation Authority to connect its internal irrigation system to the City's reclaimed water system. Exhibit B-2 (attached) shows the pipeline's alignment and connection points.

Estimate of Costs:
The project is estimated to cost $950,000 and is comprised of the following aspects:

Aspect	**Estimated Cost**
Design Services	$110,000
Construction (14-inch pipeline)	$730,000
Construction Engineering, & Inspection	$110,000
Total Estimated Costs	$950,000

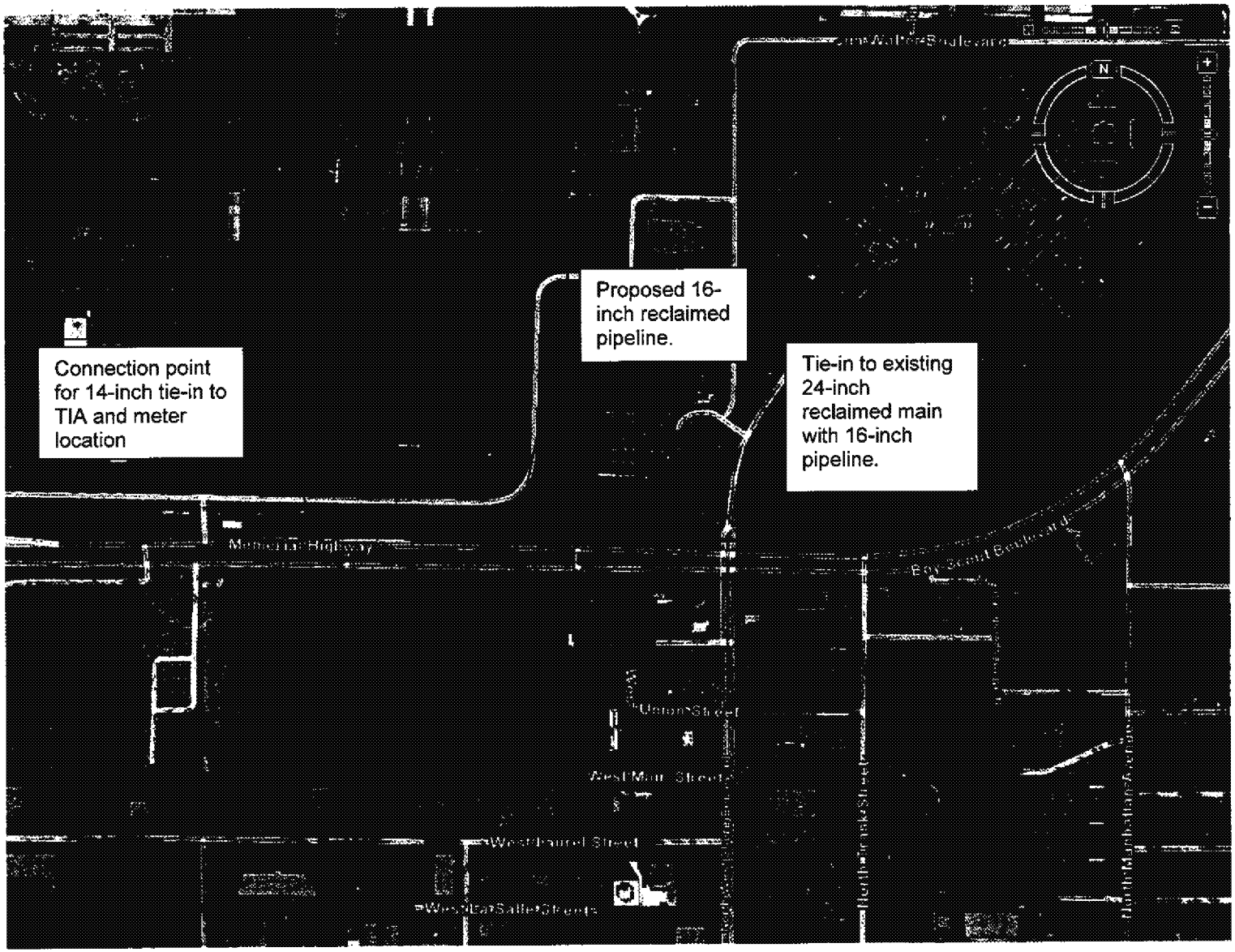


Exhibit B-2 - Proposed Reclaimed Water Pipeline Route for Service to Tampa International Airport

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Imagine the result

City of Tampa Wastewater Department

Groundwater Monitoring Summary

Howard F. Curren Advanced Wastewater Treatment Plant

Tampa, Florida

FDEP Permit #FL0020940

May 18, 2015

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Groundwater Monitoring Summary

Howard F. Curren Advanced Wastewater Treatment Plant

Prepared for:
City of Tampa

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LICENSE
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Our Ref.:
B0052887.0000

Date:
May 18, 2015

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Appendices

1. Introduction

This Groundwater Monitoring Summary (GWMS) has been developed by ARCADIS on behalf of the City of Tampa, to summarize the compliance monitoring of the surficial aquifer at the Howard F. Curren Advanced Wastewater Treatment Plant (AWTP) in accordance with Domestic Wastewater Facility Permit #FL0020940. The GWMS for the Tampa reclaimed water system areas includes relevant supporting background information and data with the objective to monitor groundwater quality to meet FDEP requirements of groundwater monitoring set forth in Chapter 62-520.600, Florida Administrative Code (F.A.C.) Ground Water Monitoring Requirements and Exemptions.

This document is organized in the following sections:

- **Section 1** – Introduction.
- **Section 2** – Site Location and Operational History. This section includes a discussion of the physical setting, and a brief summary of operational history.
- **Section 3** – Topography and Drainage. This section includes a discussion of site topography and general surface drainage in the reclaimed water system area.
- **Section 3** – Site Geology. This section provides the objectives of the monitoring program, a description of the process to be used to achieve those objectives, and the schedule for implementing that process.
- **Section 4 –** Sampling and Analysis Plan. This section provides a detailed description of matrices to be sampled, sampling equipment and methods, analytical methods, and quality assurance requirements for both field activities and laboratory analysis. This section also discusses investigation-derived waste (IDW) management.

2. Site Location and Operational History

2.1 Site Location

The reclaimed water system is located within Sections 20, 21, 22, 23, 25, 28, 29, and 36 of Township 29 South, Range 18 East. More specifically, the reclaimed water

system is immediately south of the Tampa International Airport (and includes Tampa International Airport), and stretches from Davis Island in the east to Tampa Bay in the west. The reclaimed water service area includes commercial, industrial, and residential properties.

The location of the AWTP and reclaimed water system zone of discharge is presented on **Figure 1**. The locations of wells within 500 feet of the AWTP are presented on **Figure 2**. The locations of wells within one mile of the reclaimed water system zone of discharge and treatment plant are presented in **Figure 3**.

2.2 Operational History

The design and construction of the reclaimed water system began July 2002 and was constructed in stages to allow the hookup of customers as the stages were completed. Initial customers began receiving reclaimed water for irrigation July 2004 from the AWTP. The AWTP produces approximately 60 million gallons per day (MGD) of highly treated effluent. The reclaimed water system includes over 115 miles of piping ranging from 2 inches to 36 inches in diameter, and effluent discharge to the system is approximately 6 MGD.

The reclaimed water system currently provides reclaimed water to over 2,400 primarily residential customers for irrigation within an area of approximately 3,700 acres. The City is currently operating the reclaimed water system under the Domestic Wastewater Facility Permit (Permit Number FL0020940) approved by the FDEP on October 22, 2004.

3. Topography and Drainage

The Florida peninsula is divided into the northern, central, and southern physiographic zones. The Tampa Bay Basin lies in the central zone, where the land surface is relatively flat, and subtle changes in elevation delineate landform boundaries. Dominant landforms in the central physiographic zone include the higher areas of the Brooksville Ridge, Polk Upland, and Lakeland Ridge. Lower areas include the Western Valley, which transects the uplands, and the Gulf Coastal Lowlands. The reclaimed water system is located in the Gulf Coastal Lowlands. Elevations within the Gulf Coastal Lowlands range from sea level at Hillsborough Bay and Tampa Bay to slightly greater than 75 feet above mean sea level (ft amsl) based on the National Geodetic Vertical Datum (NGVD) in eastern Hillsborough County. Based on the U.S. Geological Survey (USGS) quadrangle maps of Tampa (1956, photo revised 1981)

and Gandy Bridge (1956, photo revised 1987), the land surface elevations within project site range from to 5 feet NGVD to sea level along the coastal areas in the reclaimed service area. Site topographic contours are presented on **Figure 4**.

Surface water within the project site generally drains west/southwest towards Tampa Bay, and drains east/southeast towards the Hillsborough River and then Hillsborough Bay. The Southwest Florida Water Management District website was queried to identify surface water classifications, sinkholes and springs within a one mile radius of the reclaimed water system zone of discharge and AWTP property boundary. The surface water classifications, sinkholes, and springs within the reclaimed water system zone of discharge and AWTP property boundary are presented in **Figure 5**.

4. Site Geology

According to Menke, *et al.* (1961), Hancock and Basso (1993) and Crandall (2007), the geologic deposits beneath the project site consist of, in descending order, undifferentiated surficial deposits of the Holocene and Pliocene age, the Hawthorn Group of the Miocene age, Suwannee Limestone, Ocala, Limestone, and Avon Park Formation of Oligocene to Eocene age, and Lake City Limestone of Eocene age. This stratigraphy, as well as that of the entire peninsula of Florida, is a typical sedimentary domain resulting from sea level transgressions and regressions in the past. The strata were generally deposited in horizontal layers with little subsequent distortion or warping.

Near the land surface are undifferentiated sand deposits of the Holocene and Pliocene age and consist of primarily fine sand, silty sand, clayey sand, marl, shell, limestone and phosphorite. These comprise the entire surficial aquifer systm that overlies the Hawthorn group. Within the project area, the undifferentiated deposits were estimated to have a thickness in the typical range of approximately 15 to 30 feet but could be as thick as 50 feet in some area.

The Hawthorn Group, which underlies the undifferentiated deposits, is comprised predominantly of dolomite, clay, silt, sand, and limestone. The Hawthorn Group forms the intermediate confining unit that lies between the surficial aquifer and upper Floridan aquifer. In the southern part of Hillsborough County, the Hawthorn Group is thick and includes the water producing Tampa Limestone formation of the Miocene age (also known as the intermediate aquifer). This unit is absent beneath the project area. The thickness of the Hawthorn Group in the project site reportedly ranges from approximately 25 to 50 feet.

The Suwannee Limestone, which underlies the Hawthorn Group, consists of gray to tan, soft to hard limestone with chert of Oligocene age. This formation represents the top of the Floridan aquifer system. This formation has a moderately high transmissivity. In the vicinity of the project site, this limestone formation was reported to have a thickness in the range of approximately 80 to 120 feet.

The Ocala Limestone, which underlies the Suwannee Limestone, consists of tan, sandy, vuggy, and fossiliferous limestone. This formation has a moderately high transmissivity. At the project site this formation was estimated to have a thickness in the range of approximately 120 to 250 feet.

The Avon Park Formation underlies the Ocala Limestone. This formation is comprised of tan, soft, clayey and foraminiferal limestone and dolomite. Limestone is tan rec-crystallized and dolomite is brown, fractured, and hard. At the project site, the Avon Park Formation was estimated to have a thickness of at least 200 feet. The Suwannee Limestone, Ocala Limestone, and Avon Park Formation form the upper Floridan aquifer.

The Lake City Limestone underlies the Avon Park Formation. The Lake City Limestone consists of soft, chalky, cream to brown limestone containing beds of foraminiferal coquina and zones of brown to dark brown, hard, crystalline dolomite limestone. Within the project area, the Lake City Limestone was reported to have a thickness greater than 500 feet.

4.1 Hydrogeology

Beneath the project site are two main aquifer systems: the unconfined surficial aquifer system and the confined Floridan aquifer system (FAS). The Floridan aquifer is composed of the upper and lower Floridan aquifers. The surficial aquifer system is separated from the upper Florida aquifer by the clayey deposits of the Hawthorn Group. The upper Floridan aquifer is separated from the lower Floridan aquifer by a confining unit consisting of the bottom of the Avon Park Formation.

4.1.1 Surficial Aquifer System

The surficial aquifer system (SAS) is an unconfined aquifer that extends from the water table to the Hawthorn Group confining unit. The long-term average groundwater contour of the SAS is likely to mimic the topographic surface. Water levels in the SAS fluctuate widely and rapidly in response to rainfall and evapotranspiration. With the

project site area, the thickness of the SAS ranges from approximately 15 to 50 feet. Recharge in the SAS is primarily by rainfall. Discharge from the aquifer is mainly by evapotranspiration, downward leakage to the Florida Aquifer, and lateral seepage to surrounding surface water bodies. In a normal rainfall year, the net recharge (i.e. rainfall minus evapotranspiration and deep recharge) into the SAS with the project site is estimated to be approximately 5 inches per year (Visher and Hughes 1969).

According to Hancock and Basso (1993), Crandall (2007) and Environmental Simulations Inc. (2007), the SAS in the project site vicinity has a hydraulic conductivity in the range of 5 to 20 feet per day (ft/day). Effective porosity measurements for the SAS vary, but an average value of 0.25 based on geophysical measurements has been used in various models (SDI Environmental Services Inc., 1997; Knochenmus and Robinson 1996)

4.1.2 Intermediate Confining Unit

Hancock and Basso (1993) and Crandall (2007) estimated that the leakage of the Hawthorn Group within the project site vicinity to be in the range of 1×10^{-4} to 8×10^{-4} ft/day. This is consistent with hydraulic conductivity ranges for layered semi-impervious clays to impervious unweathered clays.

4.1.3 Floridan Aquifer System

The Floridan Aquifer system (FAS) beneath the project site vicinity consists of more than 1,000 feet of porous to dense limestone and dolomitic limestone. The FAS is composed of the upper and lower Floridan aquifers. The upper Floridan aquifer is separated from the lower Floridan aquifer by the semi-confining unit in the bottom of the Avon Park Formation. In the project area, the upper Floridan aquifer is comprised of limestone of the Suwannee, Ocala, and Avon Park Formations. The lower Floridan aquifer is comprised of limestone and dolomite of the Lake City Formation.

Hancock and Basso (1993), Crandall (2007) and Environmental Simulations Inc. (2007) state the upper Floridan aquifer in the project site vicinity has a transmissivity in the range of approximately 35,000 to 65,000 square feet per day and a storage coefficient in the range of 1×10^{-4} to 1×10^{-3}. Groundwater flow within the upper Floridan Aquifer near the project site occurred generally from northeast to southwest, with potentiometric surface elevations ranging approximately from +15 to +5 feet amsl.

5. Groundwater Monitoring Program

This section discusses the planned groundwater monitoring activities to be implemented for the surficial aquifer and includes:

- well locations and depths
-
- monitoring parameters
-

A sampling and analysis plan is included in this document as **Section 6**.

The objectives of the proposed monitoring program are to:

- Monitor changes to the surficial aquifer water quality;
- Monitor groundwater quality to maintain compliance with Chapter 62-520.600, F.A.C. Ground Water Monitoring Requirements and Exemptions.

The well construction details for compliance monitoring wells are summarized in **Table 1.** The proposed compliance sampling parameters for the discharge zone monitoring is summarized in **Table 2**. All monitoring locations are presented on **Figure 6**.

Monitoring parameters for this Groundwater Monitoring Program are included in **Table 1**. Field parameters specified for purge stabilization in FDEP Standard Operating Procedure (SOP) #FS 2200 will be recorded.

5.1 Surficial Aquifer

Surficial aquifer monitoring will be accomplished through the use of monitoring wells as listed in **Table 1**. Groundwater elevations will be measured at all existing surficial monitoring wells during each monitoring event.

Monitoring frequency for the surficial aquifer wells shown on **Figure 6** will be conducted by the schedule included as part of **Table 1**.

6. Sampling and Analysis Plan

The following subsections constitute the Sampling and Analysis Plan that will be used to implement this Groundwater Monitoring Plan and collected data and analytical reporting requirements.

6.1 Sampling and Analysis

Sampling conducted under this Groundwater Monitoring Summary will include monitoring wells associated with the reclaimed water system discharge area. Monitoring well designations, analytical parameters and methods, and proposed sampling frequencies are presented in **Table 1**. Boring logs providing lithology, monitoring well construction, and development details are included in **Appendix A.**

Monitoring wells will be purged and sampled, using low-stress protocols described in FDEP SOP-001/01 #FS2200 *Groundwater Sampling*, in conjunction with other applicable SOPs, including:

- #FA 1000 Regulatory Scope and Administrative Procedures for Use of FDEP SOPs
- #FC 1000 Cleaning/ Decontamination Procedures
- #FD 1000 Documentation Procedures
- #FQ 1000 Field Quality Control Requirements
- #FS 1000 General Sampling Procedures
- #FS 2000 General Aqueous Sampling
- #FT 1000 Field Testing and Measurement

A single sampling event will be conducted for the permit renewal application that will include primary and secondary drinking water parameters included in Rule 62-550, F.A.C. Public Drinking Water Systems, excluding asbestos, PCBs, insecticides, pesticides, chlorine, chloramines, chlorine dioxide, uranium, and United States Environmental Protection Agency (USEPA) Methods 601 and 602. The results for the permit renewal application will be sent in as part of this renewal application package.

6.2 Investigation-Derived Waste Management

Water generated from sampling and any decontamination activities, will be tanked, transported to the existing groundwater treatment system, and discharged into the influent tank of that system.

Solid waste, such as used gloves, pump tubing, and similar items will be bagged and placed in a dumpster for disposal at a municipal landfill.

7. References

Crandall, C., 2007. *City of Tampa South Tampa Area Reclaimed (STAR) Expansion Evaluation*

Environmental Simulations Inc., 2007. *Refinement of the District Wide Regulation Mode for Southwest Florida Water Management District.* Prepared for SWFWMD.

Hancock, M. and R. Basso, 1993. *Computer Model of Ground-Water Flow in Northern Tampa Bay Area (Draft).* Prepared for SWFWMD.

Knochemus, L. A. and Robinson, J. L., 1996. *Descriptions of anisotropy and heterogeneity and their effect on groundwater flow and areas of contribution to public supply well in a karst carbonate aquifer system.* U.S. Geological Survey of Water-Supply Paper 2475.

Menke, C.G., Meredith, E.W., and Wetterhall, W.S., 1961, Water Resources of Hillsborough County, Florida: State Board of Conservation, Florida Geological Survey Report of Investigations 25, 101 p.

SDI Environmental Services Inc., 1997. *Water Resources Evaluation and Integrated Hydrologic Model of the Northern Tampa Bay Region.* Consultant's Report on File at Tampa Bay Water, Clearwater, Florida.

Visher, F. N. and Hughes, G. H. 1969. *The Difference between Rainfall and Potential Evaporation in Florida.* Florida Geological Survey, Tallahassee, Florida.

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Tables

TABLE 1
Compliance Monitoring Well Construction
Howard F. Curren Advanced Wastewater Treatment Plant
City of Tampa
Tampa, Florida

Monitor Well Location	Monitor Well ID	Screen Zone Aquifer	Screen Interval (ft bls)	Northing[1]	Easting[1]	Ground Surface Elevation (ft amsl)[2]	Top of Casing Elevation (ft amsl)[2]	Screen Zone Aquifer	Screen Interval (ft bls)	Sand Pack Interval (ft bls)	Bentonite Seal Interval (ft bls)	Cement Grout Seal Interval (ft bls)	Well Protective Cover Type
Gorrie Elementary School	GE-1	Surficial	5-15	1311054.406	504906.5191	16.29	16.01	Surficial	5-15	3-15	2-3	0-2	Flushmount
	GE-2	Surficial	5-15	1311058.328	505355.7161	15.22	14.97	Surficial	5-15	3-15	2-3	0-2	Flushmount
Swann Park	SP-1	Surficial	5-15	1310463.294	488521.4368	8.69	8.42	Surficial	5-13	3-15	2-3	0-2	Flushmount
	SP-2	Surficial	5-15	1310376.367	487948.884	8.56	8.36	Surficial	5-15	3-15	2-3	0-2	Flushmount

ft amsl - feet above mean sea level
ft bls - feet below land surface
GE - Gorrie Elementary
SP - Swann Park
[1] - Horizontal Datum based on the Florida State Coordinate Plane, West Zone, North American Datum 1983, 1990 Adjustment
[2] - Vertical Datum based on the National Geodetic Vertical Datum of 1929

TABLE 2
Howard F. Curren Advanced Wastewater Treatment Plant
Compliance Monitoring Parameters
City of Tampa
Tampa, Florida

Monitor Well Location	Monitor Well ID	Screen Zone Aquifer	Screen Interval (ft bls)	Sampling Rationale	Sampling Frequency[1]	Analyses
Gorrie Elementary School	GE-1	Surficial	5-15	Compliance Well	Quarterly	Groundwater Level and Elevation, Nitrogen, Nitrate, Total (as N), Total Dissolved Solids (TDS), Total Recoverable Arsenic, Cadmium, Chromium, Lead, and Sodium, Chloride as (CL), Fecal, Coliforms, pH, Total Sulfate, Turbidity.
	GE-2	Surficial	5-15	Compliance Well	Quarterly	Groundwater Level and Elevation, Nitrogen, Nitrate, Total (as N), Total Dissolved Solids (TDS), Total Recoverable Arsenic, Cadmium, Chromium, Lead, and Sodium, Chloride as (CL), Fecal, Coliforms, pH, Total Sulfate, Turbidity.
Swann Park	SP-1	Surficial	5-13	Compliance Well	Quarterly	Groundwater Level and Elevation, Nitrogen, Nitrate, Total (as N), Total Dissolved Solids (TDS), Total Recoverable Arsenic, Cadmium, Chromium, Lead, and Sodium, Chloride as (CL), Fecal, Coliforms, pH, Total Sulfate, Turbidity.
	SP-2	Surficial	5-15	Compliance Well	Quarterly	Groundwater Level and Elevation, Nitrogen, Nitrate, Total (as N), Total Dissolved Solids (TDS), Total Recoverable Arsenic, Cadmium, Chromium, Lead, and Sodium, Chloride as (CL), Fecal, Coliforms, pH, Total Sulfate, Turbidity.

[1] - Quarters are January-March, April-June, July-September and October-December
GE= Gorrie Elementary
SM = Standard Method
SP= Swann Park
EPA= Environmental Protection Agency

Analyses and Method:
Biological: Fecal Coliforms by SM 9222D
Inorganic compounds: Total Recoverable Arsenic, Cadmium, Chromium, Lead, and Sodium by EPA Method 200.7 Rev 4.4, Chloride as (Cl) and Sulfate by EPA Method 300.0, Nitrogen, Nitrate, Total (as N) by EPA Method 353.2, Total Dissolved Solids (TDS) by SM 2540C

Other Analyses and Method:
pH by SM 4500 H+ B, Turbidity by SM 2130B

Field Parameters include:
Dissolved Oxygen (meter analysis)
pH (meter analysis)
Specific Conductance (meter analysis)
Temperature (NTIS-calibrated thermometer)
Turbidity (meter analysis)
Water Level (meter analysis)

ARCADIS

Figures

REFERENCES:

Aerial Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/25/14.

Basemap Data Source(s):
http://www.swfwmd.state.fl.us/
http://www.dep.state.fl.us/

0 3,000 6,000

SCALE IN FEET

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

AWTP PROPERTY BOUNDARY

RECLAIMED WATER ZONE OF DISCHARGE

NOTE:

AWTP - ADVANCED WASTEWATER TREATMENT PLANT

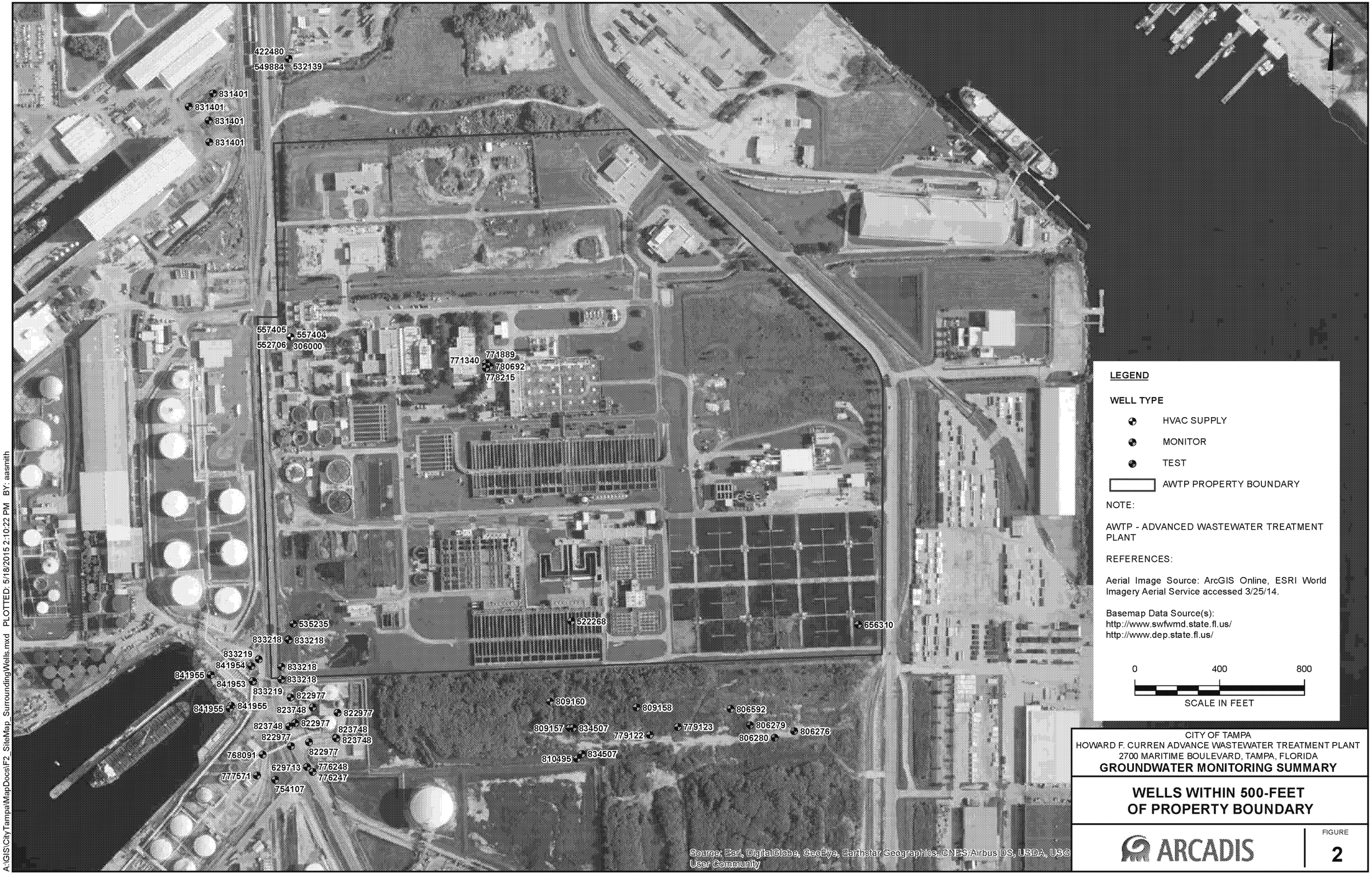
CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA
GROUNDWATER MONITORING SUMMARY

SITE MAP

ARCADIS

FIGURE
1

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
A:\GIS\CityTampa\MapDocs\F1_SiteMap.mxd PLOTTED: 5/18/2015 2:04:23 PM BY: aasmith



CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
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CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA
GROUNDWATER MONITORING SUMMARY

WELLS WITHIN 500-FEET OF PROPERTY BOUNDARY

ARCADIS

FIGURE
2

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
A:\GIS\CityTampa\MapDocs\F3_ReclaimedWaterSystem.mxd PLOTTED: 3/26/2015 4:22:28 PM BY: aasmith

LEGEND

WELL TYPE

- PUBLIC SUPPLY
- POWER
- DOMESTIC
- REMEDIATION - AIR
- ESSENTIAL SERVICES (FIRE PROTECTION)
- SEALING WATER
- INDUSTRIAL
- GROUNDING ROD
- REMEDIATION - RECOVERY
- IRRIGATION - RECREATION
- REPAIR OR DEEPEN (USE NOT SPECIFIED)
- HVAC RETURN (CLASS V)
- EARTH COUPLED GEOTHERMAL
- IRRIGATION - LANDSCAPE
- MINING
- IRRIGATION
- HVAC SUPPLY
- MONITOR
- TEST
- AWTP PROPERTY BOUNDARY
- RECLAIMED WATER ZONE OF DISCHARGE

NOTE:

AWTP - ADVANCED WASTEWATER TREATMENT PLANT

REFERENCES:

Aerial Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/25/14.

Basemap Data Source(s):
http://www.swfwmd.state.fl.us/
http://www.dep.state.fl.us/

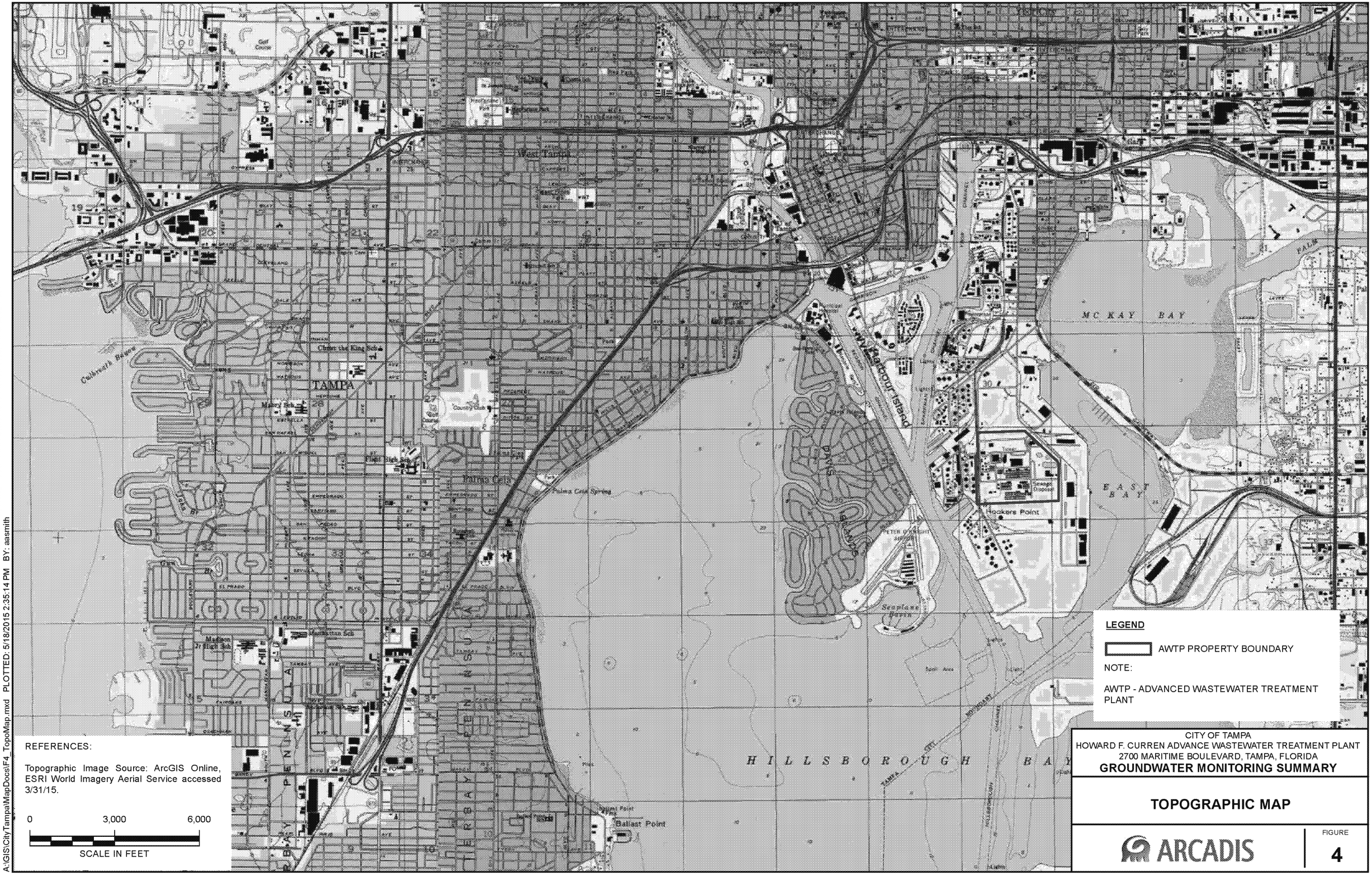
0 3,000 6,000
SCALE IN FEET

CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA
GROUNDWATER MONITORING SUMMARY

WELLS WITHIN ONE MILE RADIUS OF RECLAIMED WATER SYSTEM

ARCADIS

FIGURE
3



REFERENCES:

Topographic Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/31/15.

0 3,000 6,000

SCALE IN FEET

LEGEND

AWTP PROPERTY BOUNDARY

NOTE:

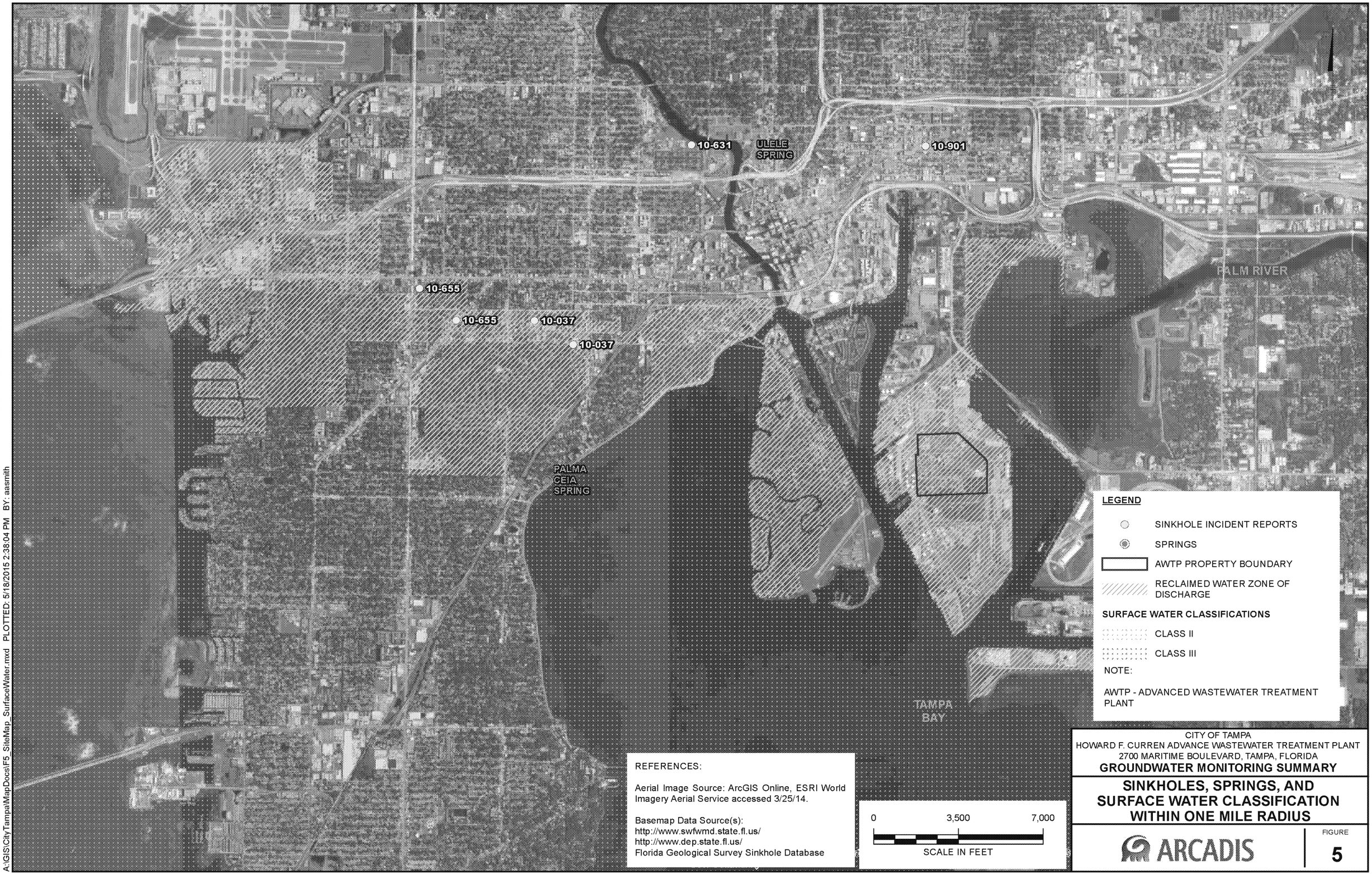
AWTP - ADVANCED WASTEWATER TREATMENT PLANT

CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA
GROUNDWATER MONITORING SUMMARY

TOPOGRAPHIC MAP

ARCADIS

FIGURE
4



REFERENCES:

Aerial Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/25/14.

Basemap Data Source(s):
http://www.swfwmd.state.fl.us/
http://www.dep.state.fl.us/
Florida Geological Survey Sinkhole Database

0 3,500 7,000
SCALE IN FEET

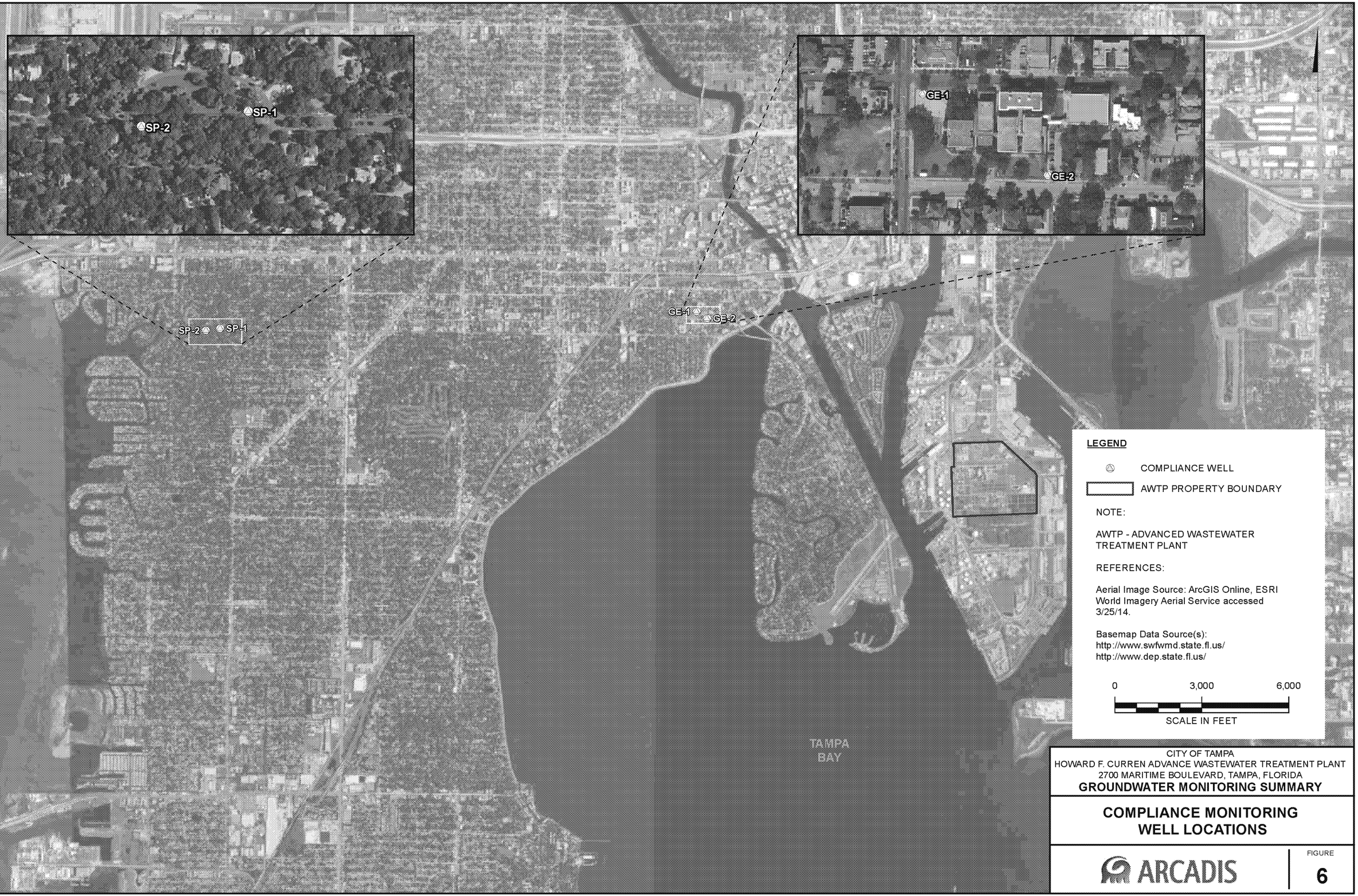
CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA
GROUNDWATER MONITORING SUMMARY

SINKHOLES, SPRINGS, AND SURFACE WATER CLASSIFICATION WITHIN ONE MILE RADIUS

ARCADIS

FIGURE 5

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT.NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
A:\GIS\CityTampa\MapDocs\F5_SiteMap_SurfaceWater.mxd PLOTTED: 5/18/2015 2:38:04 PM BY: aasmith



LEGEND

- COMPLIANCE WELL
- AWTP PROPERTY BOUNDARY

NOTE:

AWTP - ADVANCED WASTEWATER TREATMENT PLANT

REFERENCES:

Aerial Image Source: ArcGIS Online, ESRI World Imagery Aerial Service accessed 3/25/14.

Basemap Data Source(s):
http://www.swfwmd.state.fl.us/
http://www.dep.state.fl.us/

0 3,000 6,000

SCALE IN FEET

CITY OF TAMPA
HOWARD F. CURREN ADVANCE WASTEWATER TREATMENT PLANT
2700 MARITIME BOULEVARD, TAMPA, FLORIDA

GROUNDWATER MONITORING SUMMARY

COMPLIANCE MONITORING WELL LOCATIONS

ARCADIS

FIGURE 6

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: CS: NAD 1983 HARN StatePlane Florida West FIPS 0902 Feet
A:\GIS\CityTampa\MapDocs\F6_SiteMap_ComplianceSampling.mxd PLOTTED: 5/18/2015 2:52:34 PM BY: aasmith

ARCADIS

Appendix A

Well Construction and Boring Details

Date Start/Finish: 5/29/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1311054.4057
Easting: 504906.5191
Casing Elevation: 16.00 ft amsl

Borehole Depth: 15 feet bgs
Surface Elevation: 16.29 ft amsl

Descriptions By: Giulio Scarzella (PB&J)

Well/Boring ID: GE-1

Client: City of Tampa Wastewater Department

Location: Gorrie Elementary

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		White Sand, fine to medium, grading into light brown sand, medium to fine, and then brown/orange clayey (5-10%) sand.
5	4-8'	SC		Brown/orange clayey sand, increased clay content with depth, shell fragments~ 8'.
10	8-12'	SP		Gray/white sand, fine to medium and abundant shells.
15	12-15'			12' bgs- Decreasing shells with depth and disappearance at 13.5', trace black specks.

Well/Boring Construction:
- 8-inch flushmount cover
- Locking J-Plug
- Concrete Pad (2' x 2' x 0.5')
- Portland Type I/II cement grout (0-2' bgs)
- Bentonite seal (2-3' bgs)
- 2-inch Schedule 40 PVC riser (0-5' bgs)
- 20/30 sand pack (3-15' bgs)
- 2-inch Schedule 40 PVC 0.01 slotted well screen (5-15' bgs)

ARCADIS
Infrastructure, environment, buildings

Remarks: amsl = above mean sea level
bgs = below ground surface
ft = feet
NA = not applicable/available
Elevations are based on the National Geodetic Vertical Datum of 1929
Well was developed for approximately 30 minutes until water was clear of any sediments.

Date Start/Finish: 5/29/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1311058.3282
Easting: 505355.7161
Casing Elevation: 14.97 ft amsl

Borehole Depth: 15 feet bgs
Surface Elevation: 15.22 ft amsl

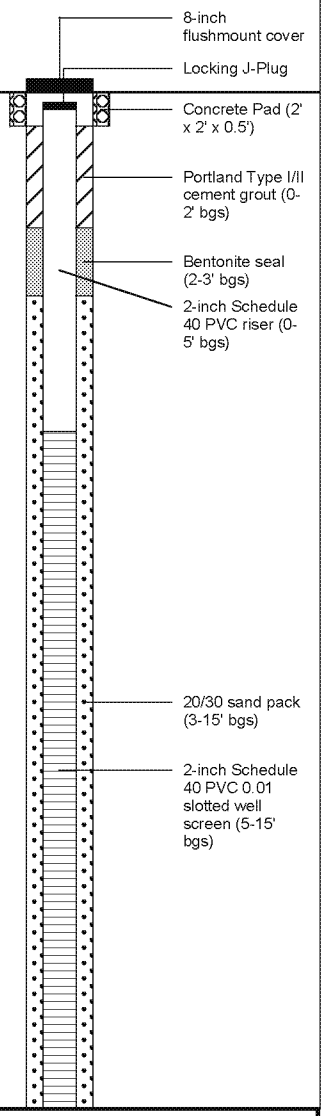
Descriptions By: Giulio Scarzella PBS&J

Well/Boring ID: GE-2

Client: City of Tampa Wastewater Department

Location: Gorrie Elementary

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		Brown sand, fine to medium grading into white sand, trace organic, grading into brown/gray sand, fine to medium.
5	4-8'			
10	8-12'	SC		Dark brown sandy (10-20%) clay, into green clay and then orange clay at 8', back into dark brown sandy clay, increasing sand with depth resulting in clayey (10-20%) brown/orange sand.
15	12-15'	SP		Dark brown sand, fine to medium.



ARCADIS
Infrastructure, environment, buildings

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ft = feet
NA = not applicable/available
Elevations are based on the National Geodetic Vertical Datum of 1929
Well was developed for approximately 67 minutes until water was clear of any sediments.

Date Start/Finish: 5/27/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1310463.2937
Easting: 488521.4368
Casing Elevation: 8.42 ft amsl

Borehole Depth: 13 feet bgs
Surface Elevation: 8.69 ft amsl

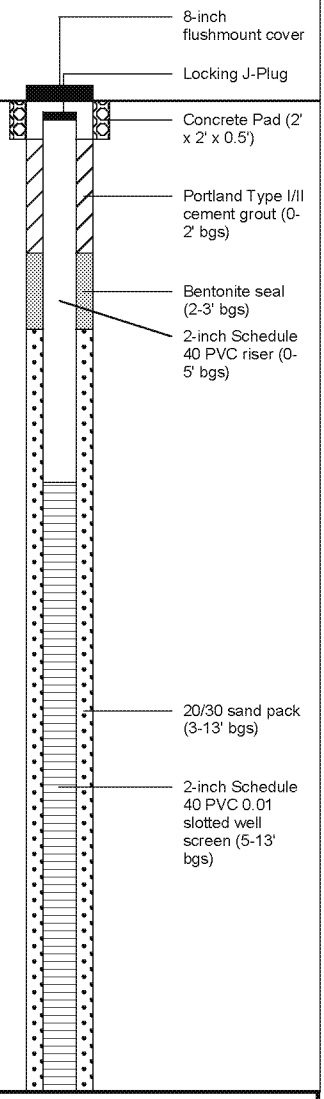
Descriptions By: Giulio Scarzella PBS&J

Well/Boring ID: **SP-1**

Client: City of Tampa Wastewater Department

Location: Swann Park

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		Brown sand, fine to medium, well sorted, trace organic debris, limestone cobbles at 3'.
5	4-8'			White limestone, fine to medium grained, grading into slightly weathered limestone, then brown sand, fine to medium, limestone fragments (pebble). Chert encountered at 13'.
10	8-12'			
	12-13'			



ARCADIS
Infrastructure, environment, buildings

Remarks: amsl = above mean sea level
bgs = below ground surface
ft = feet
NA = not applicable/available
Elevations are based on the National Geodetic Vertical Datum of 1929
Development continued for 10 hours over two days, water remained fairly cloudy/milky, although quality improved over duration. Water was clear of sediment. Water quality result of clay size weathered limestone/calcareous clay.

Date Start/Finish: 5/29/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1310376.3669
Easting: 487948.8840
Casing Elevation: 8.36 ft amsl

Borehole Depth: 15 feet bgs
Surface Elevation: 8.56 ft amsl

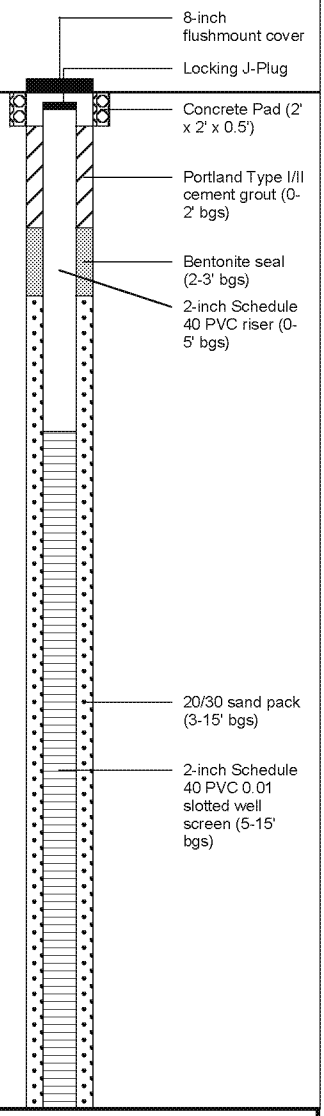
Descriptions By: Giulio Scarzella PBS&J

Well/Boring ID: SP-2

Client: City of Tampa Wastewater Department

Location: Swann Park

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		Light brown sand, medium to fine.
5	4-8'	SC		Sandy (10-20%) brown clay, grading into sandy brown/green clay, grading into light brown/brown clayey (10-20%) sand, grading into sandy (10-20%) green clay, limestone fragments (pebble) at ~12'.
10	8-12'			
15	12-15'			Weathered white limestone/calcareous clay.



ARCADIS
Infrastructure, environment, buildings

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NA = not applicable/available
Elevations are based on the National Geodetic Vertical Datum of 1929
Well was developed for approximately 30 minutes until water was clear of any sediments.

Date Start/Finish: 5/29/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1311054.4057
Easting: 504906.5191
Casing Elevation: 16.00 ft amsl

Borehole Depth: 15 feet bgs
Surface Elevation: 16.29 ft amsl

Descriptions By: Giulio Scarzella (PB&J)

Well/Boring ID: GE-1

Client: City of Tampa Wastewater Department

Location: Gorrie Elementary

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		White Sand, fine to medium, grading into light brown sand, medium to fine, and then brown/orange clayey (5-10%) sand.
5	4-8'	SC		Brown/orange clayey sand, increased clay content with depth, shell fragments~ 8'.
10	8-12'	SP		Gray/white sand, fine to medium and abundant shells.
15	12-15'			12' bgs- Decreasing shells with depth and disappearance at 13.5', trace black specks.

Well/Boring Construction:
- 8-inch flushmount cover
- Locking J-Plug
- Concrete Pad (2' x 2' x 0.5')
- Portland Type I/II cement grout (0-2' bgs)
- Bentonite seal (2-3' bgs)
- 2-inch Schedule 40 PVC riser (0-5' bgs)
- 20/30 sand pack (3-15' bgs)
- 2-inch Schedule 40 PVC 0.01 slotted well screen (5-15' bgs)

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Date Start/Finish: 5/29/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1311058.3282
Easting: 505355.7161
Casing Elevation: 14.97 ft amsl

Borehole Depth: 15 feet bgs
Surface Elevation: 15.22 ft amsl

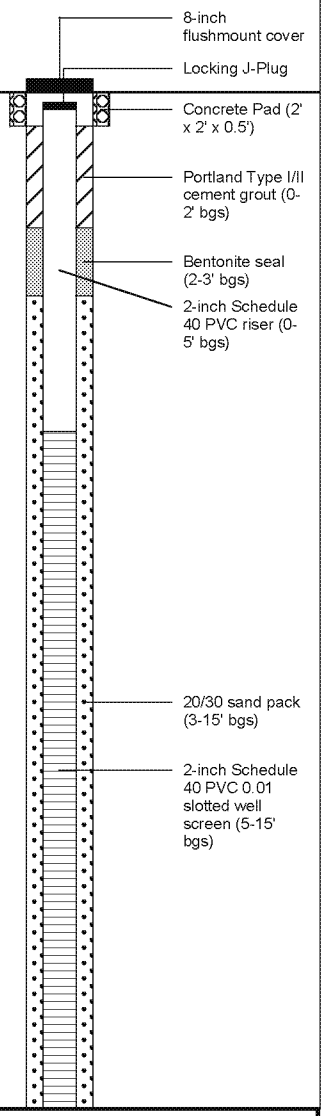
Descriptions By: Giulio Scarzella PBS&J

Well/Boring ID: GE-2

Client: City of Tampa Wastewater Department

Location: Gorrie Elementary

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		Brown sand, fine to medium grading into white sand, trace organic, grading into brown/gray sand, fine to medium.
5	4-8'			
10	8-12'	SC		Dark brown sandy (10-20%) clay, into green clay and then orange clay at 8', back into dark brown sandy clay, increasing sand with depth resulting in clayey (10-20%) brown/orange sand.
15	12-15'	SP		Dark brown sand, fine to medium.



ARCADIS
Infrastructure, environment, buildings

Remarks: amsl = above mean sea level
bgs = below ground surface
ft = feet
NA = not applicable/available
Elevations are based on the National Geodetic Vertical Datum of 1929
Well was developed for approximately 67 minutes until water was clear of any sediments.

Date Start/Finish: 5/27/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1310463.2937
Easting: 488521.4368
Casing Elevation: 8.42 ft amsl

Borehole Depth: 13 feet bgs
Surface Elevation: 8.69 ft amsl

Descriptions By: Giulio Scarzella PBS&J

Well/Boring ID: **SP-1**

Client: City of Tampa Wastewater Department

Location: Swann Park

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
10					8-inch flushmount cover; Locking J-Plug
0	0-4'	SP		Brown sand, fine to medium, well sorted, trace organic debris, limestone cobbles at 3'.	Concrete Pad (2' x 2' x 0.5'); Portland Type I/II cement grout (0-2' bgs); Bentonite seal (2-3' bgs); 2-inch Schedule 40 PVC riser (0-5' bgs)
5	4-8'			White limestone, fine to medium grained, grading into slightly weathered limestone, then brown sand, fine to medium, limestone fragments (pebble). Chert encountered at 13'.	20/30 sand pack (3-13' bgs); 2-inch Schedule 40 PVC 0.01 slotted well screen (5-13' bgs)
0	8-12'				
5	12-13'				
10					

ARCADIS
Infrastructure, environment, buildings

Remarks: amsl = above mean sea level
bgs = below ground surface
ft = feet
NA = not applicable/available
Elevations are based on the National Geodetic Vertical Datum of 1929
Development continued for 10 hours over two days, water remained fairly cloudy/milky, although quality improved over duration. Water was clear of sediment. Water quality result of clay size weathered limestone/calcareous clay.

Date Start/Finish: 5/29/2003
Drilling Company: Williams Earth Sciences
Driller's Name: Kenny Hicks
Drilling Method: Hollow Stem Auger
Sampling Method: Split spoon
Rig Type: CME 45 - DR 13

Northing: 1310376.3669
Easting: 487948.8840
Casing Elevation: 8.36 ft amsl

Borehole Depth: 15 feet bgs
Surface Elevation: 8.56 ft amsl

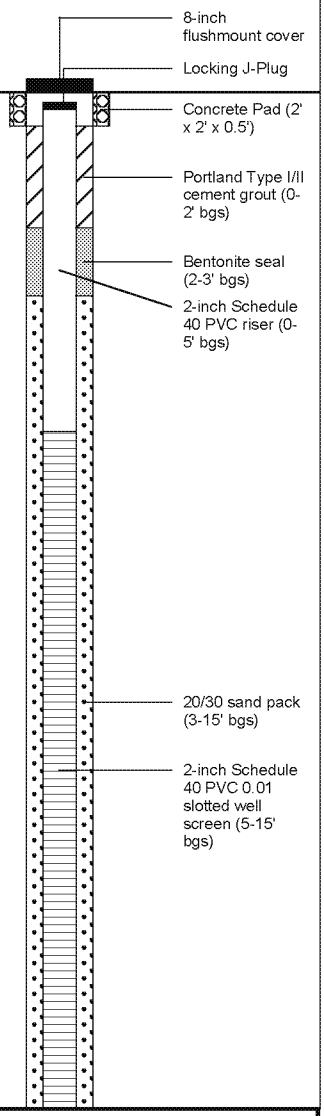
Descriptions By: Giulio Scarzella PBS&J

Well/Boring ID: SP-2

Client: City of Tampa Wastewater Department

Location: Swann Park

DEPTH / ELEVATION	Sample/Int/Type	USCS Code	Geologic Column	Stratigraphic Description
0	0-4'	SP		Light brown sand, medium to fine.
5	4-8'	SC		Sandy (10-20%) brown clay, grading into sandy brown/green clay, grading into light brown/brown clayey (10-20%) sand, grading into sandy (10-20%) green clay, limestone fragments (pebble) at ~12'.
10	8-12'			
-5	12-15'			Weathered white limestone/calcareous clay.



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Infrastructure, environment, buildings

Remarks: amsl = above mean sea level
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NA = not applicable/available
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